

University of Pécs, Faculty of Health Sciences
Institute of Nursing Sciences, Basic Health Sciences and Health- Visiting
Theoretical state exam topic list

The items consist of three subunits of equal weight in the evaluation. Complex acquisition of basic life science knowledge, clinical knowledge, drug (grouping and mechanism of action) and other therapies, and nursing science knowledge is required for effective preparation. If you have any questions, please feel free to contact the colleagues of the Institute.

1) Heart failure

a) Basics of anatomical, physiological and pathophysiological studies

Anatomical structure of the heart. Cardiac effects of the sympathetic and parasympathetic nervous systems. Compensatory mechanisms of cardiac circulatory failure.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Causes, division, symptoms and diagnostic possibilities of heart failure.

c) Management, therapy- basic and advanced nursing tasks, prevention

Pharmacological therapy of the disease, surgical solutions. Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the case of the therapy and care of the disease.

2) Ischaemic heart disease

a) Basics of anatomical, physiological and pathophysiological studies

The heart's own vascular supply and characteristics. Effects of the sympathetic and parasympathetic nervous systems on cardiac cycle, coronary arteries, and stroke volume. Nervousness of the heart. Isolation of ischemia, lesion, necrosis, ECG signs.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Atherosclerosis, acute coronary syndrome, angina pectoris, myocardial infarction (STEMI, NSTEMI). Common complications. Laboratory, ECG, and coronary intervention abnormalities.

c) Management, therapy- basic and advanced nursing tasks, prevention

Management protocol for acute angina pectoris and STEMI. Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions of the therapy and care of the diseases. Coronary intervention.

3) Hypertension

a) Basics of anatomical, physiological and pathophysiological studies

Characterization of vascular wall structure (differences between arterial and venous veins). Definition of blood pressure, determinants and influencing factors, the degree of involvement of each vascular section in the development of peripheral resistance. High and low pressure systems. Local, humoral, and neural regulation of circulation.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

WHO definition, grouping and complications of hypertension. Causes of temporary and permanent increase in blood pressure. Etiological classification (primary and secondary). Cardiovascular risk factors. Hypertensive crisis. Metabolic syndrome. Methods of investigating the causes of hypertension and target organ damage.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of basic and advanced nursing interventions in the case of the therapy and care of the disease.

4) Shock

a) Basics of anatomical, physiological and pathophysiological studies

Description of the small and large blood circles. Distribution of circulating blood in the circulatory system at rest. Blood pressure in some parts of the small bloodstream and large bloodstream. Blood flow and share of organs / organ systems in cardiac output and their involvement in circulatory redistribution. Structure of capillaries, significance of AV shunts, capillary metabolism, pressure differences between intra and extravascular space - the process of edema formation, the role of plasma proteins.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Description of the process of shock on the example of hypovolaemic shock, divided by triggers. Symptoms of the compensated and decompensated phases of shock. Major physical and instrumental diagnostic test methods.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the therapy of the disease and, in the case of its care, the aims, indications, contraindications, implementation, effects and complications of the basic and advanced nursing interventions.

5) Arterial vessel diseases

a) Basics of anatomical, physiological and pathophysiological studies

Arteries of the large bloodstream and their area of supply. Describe the possible routes of blood clots from the left atrium, right atrium, and saphenous vein. Main groups of blood vessels (structure of blood vessels; pulse (concept and 5 qualitas), properties of arterial pulse; factors influencing heart rate; pulse wave; locations and technique of pulse examination); normal heart rate by age.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Describe the causes, symptoms and types of arterial occlusions (acute, chronic). Describe the mechanism of acute arterial embolism. Describe the types, causes and symptoms of chronic vascular occlusions (Buerger's disease, significance of arteriosclerosis, intermittent claudication). Describe the invasive and non - invasive diagnostic procedures used in the diseases (physical examination, laboratory examinations. Examination of the background of abdominal angina. Factors of the development of aortic aneurysm, symptoms, division, complications.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases. Describe the possible surgical solutions (embolectomy, thrombectomy, replacement or bridging of a blocked vessel). Surgical treatment of aortic aneurysm rupture.

6) Venous vessel diseases

a) Basics of anatomical, physiological and pathophysiological studies

Describe the venous system, blood circuits, and their collection area. Describe the possible routes of blood clots from the left atrium, right atrium, and saphenous vein. The main groups of blood vessels. (structure of blood vessels; pulse (concept and 5 qualitas), properties of venous pulse. Factors influencing venous flow.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Describe the classification, causes, types (acute, chronic) predisposing factors, etiology and symptoms of venous diseases. Describe the invasive and noninvasive diagnostic procedures used in the disease. Complications of varicose veins: post-thrombotic syndrome.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, educational tasks, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases. Describe interventional radiological methods (inferior vena cava filters, stent placement, endoprosthesis implantation, PTA).

7) Obstructive pulmonary diseases

a) Basics of anatomical, physiological and pathophysiological studies

Structure of the respiratory system. Phases of respiration. The O₂ and CO₂ content of inhaled, alveolar and exhaled air, arterial and venous blood. Gas exchange in the lungs. The role of blood in gas exchange. Transport of blood gases. Spirometry and respiratory volumes. Regulation of respiration (function of central and peripheral receptors). Effects of the sympathetic and parasympathetic nervous systems on the bronchi and respiration. O₂ poisoning; CO₂ coma.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Division of chronic obstructive pulmonary diseases (bronchitis chronica, bronchial asthma, pulmonary emphysema), causal factors, predisposing factors, symptoms, diagnostic possibilities, complications. Status asthmaticus tūnettana. Allergic diseases of the respiratory tract (hay fever, edema laryngis), triggers, symptoms, urgency. Test methods for respiratory diseases.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases. Treatment of acute exacerbations of chronic bronchitis.

8) Inflammatory and restrictive lung diseases of the upper respiratory tract

a) Basics of anatomical, physiological and pathophysiological studies

The formulas of the mediastinum. Maintenance of lung tension, role of surfactant. Pressure conditions affecting blood flow to the lungs - small blood circulation. Processes between gas exchange capillaries and interstitial fluid during gas exchange. Vital capacity, concept of residual air. The role of pleural membranes and location. Significance of sphenicocostal sinus. Factors influencing respiratory rate; assessment of ventilation (respiration rate / drift / rhythm / sound by age); change in the smell of breath; forms of cough; typical sputum types. Normal and abnormal breathing types.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Follicular tonsillitis, influenza, acute bronchitis, cause of pneumonia, symptoms, division, diagnostic possibilities, complications. Causes, symptoms and examination methods of pulmonary Tuberculosis, PTX.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases.

9) Inflammatory and neoplastic diseases of the urinary tract, kidney stones

a) Basics of anatomical, physiological and pathophysiological studies

Structure and function of the urinary excretory and drainage organ system, juxtaglomerular apparatus of the kidney, parts of the nephron, filter surface, filtration. Renal hormone production. Significance of urine characteristics, general and microbiological examinations.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Predisposing factors of urinary tract infections, the most common causes, division of urethritis (including STDs), symptoms, diagnosis of cystitis and pyelonephritis. Structure of kidney stones, predisposing factors of formation, typical symptoms of kidney stone colic, examination methods, complications.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases.

10) Acute and chronic kidney failure

a) Basics of anatomical, physiological and pathophysiological studies

Mechanisms of urine formation in certain sections of the renal nephron. Hormonal effects in the kidney. Differences in quantity and quality (composition) of urination.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Definition, causes, factors leading to its development, division, symptoms and complications of acute and chronic kidney failure. Invasive and noninvasive diagnostic tests for kidney failure. The most common salt and water household disorders caused by kidney failure and their signs.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases. Types and indications of dialysis therapy.

11) Diabetes mellitus syndrome

a) Basics of anatomical, physiological and pathophysiological studies

Presentation of hormones involved in the chemical regulation of energy turnover (carbohydrate and fat metabolism). Structure and function of the pancreas. Glycolysis, Glycogenesis, glycogenolysis, gluconeogenesis, lipogenesis, concept of lipolysis, effect on blood glucose and naming of hormones that stimulate or inhibit processes.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Describe the division of diabetes mellitus (IGT, IFG, Type 1, Type 2, gestational- definitions), the development, characteristics of Type 1 diabetes mellitus. Describe the development of Type 2 diabetes mellitus. Diagnostic possibilities (OGTT, IGT, HbA1c, fruktosamine, glucosuria, etc.). Development, symptoms of short-term and chronic complications of diabetes (retino, nephro, angiopathia, neuropathia), life-threatening, acute complications of DM.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases. Nursing rules of diabetic foot.

12) Disorders of the thyroid glands and adrenal glands

a) Basics of anatomical, physiological and pathophysiological studies

Structure of the thyroid gland. Demonstration of the regulation of hormone production through the hypothalamic-pituitary-thyroid connection. Iodine turnover (gastrointestinal-renal-thyroid). Structure and hormone production of the adrenal cortex and medulla (stimulus of production, location, effects). Demonstration of the hypothalamic-pituitary-adrenal relationship. Mechanism of stress.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Causes, symptoms, division, complications of inflammatory diseases (acute and chronic - Hashimoto, de Quervain thyroiditis) and cancer of the thyroid gland. Causes and symptoms of increased and decreased thyroid function (hyper and hypothyroidism) by organ system, diagnostic possibilities. Symptoms of attacks. Adrenal neoplasm: Pheochromocytoma's symptoms. Decreased and increased adrenal function (Cushing, Addison and Conn syndrome) according to causes, division, symptoms, complications by organ system.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases. Management of thyroid gland and adrenal gland disorder attacks.

13) Ulcer diseases and noninfectious inflammatory diseases of the intestinal tract

a) Basics of anatomical, physiological and pathophysiological studies

Anatomical structure and sections of the gastrointestinal tract. Nerve and humoral regulation of stomach, small intestine, colon movements. Name of digestive juices, place of production, places of their effects, name of digestive enzymes, neural and humoral regulation of their production, description of their effects. Regulation and mechanism of hydrochloric acid production.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Causes, symptoms, diagnostic possibilities and complications of GERD.

Triggers, causes, symptoms, diagnostic possibilities and complications of gastric and duodenal ulcers. Significance of *Helicobacter pylori*. Triggers, psychosomatic components, symptoms, diagnostic possibilities and complications of Crohn's disease and ulcerative colitis.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases. Describe the division of enterostomas (by type, duration, purpose, form). Describe the protocol and equipment of the stoma care, the process of preparation and implementation.

14) Liver disorders (hepatitis, cancer, cirrhosis)

a) Basics of anatomical, physiological and pathophysiological studies

Synthesis and breakdown of red blood cells. Structure of hemoglobin. Methaemoglobinaemia. Formation and role of plasma proteins. Anatomy, structure, blood supply and function of the liver. Causes and complications of portal hypertension.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Distribution of hepatitis, their characteristics, possibilities of spreading the infection, symptoms of inflammation, diagnostic possibilities, complications. The most common causes and symptoms of cirrhosis of the liver by stage, diagnostic possibilities and complications. Division of icterus, causes, characteristic signs, ways of separation.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases. Treatment of complications of cirrhosis of the liver in a supportive and palliative way. Significance of liver transplantation.

15) Diseases of the bile ducts, gallbladder and exocrine pancreas

a) Basics of anatomical, physiological and pathophysiological studies

Structure, blood supply, neural and humoral regulation of the pancreas. Bile fractions, bile composition, regulation of bile production. Enzyme production, effects and regulation of the pancreas.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Predisposing factors and causes of gallstones, common structure, symptoms of gallstones, characteristic, laboratory abnormalities, diagnostic tests, complications. Causes and symptoms of gallbladder inflammation. Common causes of acute and chronic pancreatitis, mechanism of its development, characteristic complaints and systemic complications, examination procedures.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases.

16) Infectious diseases of the bowel system

a) Definitions, epidemiological tasks

The concept of infection, the factors influencing the fate of the infection (source of infection, gates of penetration, modes of transmission of the infection). Natural barriers (primary line of defense). Pathogenicity. Significance of susceptible organism, virulence of pathogens. Occurrences of infectious diseases: sporadic, endemic, epidemic, pandemic, seasonality, cyclicity. Epidemiological action in case of infectious diseases.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Salmonellosis, shigellosis, campylobacter, *E. coli*, *V. cholerae*, *Y. enterocolitica* infections, infections caused by anaerobic bacilli (clostridium infections - enteritis necroticans, *C. difficile* diarrhea) causes, division, symptoms. More common intestinal parasitic infections (amoebiasis, giardiasis, ascariasis, trichinosis, toxocariasis). The most common viral intestinal diseases. Diagnosis of infectious diseases - major epidemiological laboratory tests.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases.

17) Asepsis- antisepsis, healthcare- associated infections

a) The concept of asepsis-antisepsis. Concept, significance, incidence, distribution, clinical appearance of nosocomial infections, nosocomial infections of hospital staff. The most common pathogens in nosocomial infections.

b) Nosocomial Surveillance, National Nosocomial Surveillance System, Basic Elements and Types of Surveillance. Nursing duties in the care of infectious patients, isolation, use of protective equipment, patient education

c) Implementation of aseptic technique before, during and after surgery, concept of resistance and contributing factors, characteristics of antisepsis. Disinfection, factors influencing the effectiveness of disinfection, disinfectants, disinfection procedures, sterilization.

18) Anaemias, clotting disorders

a) Basics of anatomical, physiological and pathophysiological studies

Characterization, formation and tasks of red blood cells and platelets. Formation of plasma proteins, coagulation factors, their role in blood coagulation. Intrinsic and extrinsic pathways of coagulation, cessation of the coagulation process, physiological fibrinolysis. The role of vitamin K in blood clotting.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Describe the concept, symptoms and types of anemia. Describe bleeding and clotting disorders. Describe the causes, symptoms and types of platelet diseases (thrombocytopenia and thrombocytopenia). Pathogenesis of DIC, causes, symptoms, complications.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases. Significance of measuring prothrombin time.

19) Osseal and articular disorders (osteoporosis, RA, degenerative disorders of spine, arthrosis)

a) Basics of anatomical, physiological and pathophysiological studies

Structure of the parathyroid gland. Physiological significance of calcium, regulation of calcium turnover (production and effects of calcitonin and parathyroid hormone; production and effects of vitamin D3). Bone formation.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Describe the pathophysiology of osteoporosis, osteomalathy, rheumatoid arthritis. Causes, symptoms, diagnostic possibilities (noninvasive, invasive possibilities). Describe the causes, frequency,

characteristic complaints and diagnostic possibilities of degenerative changes in the spine. Describe the characteristic symptoms and diagnostics of arthrosis (hips and knees).

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases.

20) Electrolyte and fluid balance disturbances, acid-base balance disturbances

a) Basics of anatomical, physiological and pathophysiological studies

Describe the concept of pH, weak and fixed acids and their role. Describe the blood buffer systems and the organs involved in ensuring pH stability and their function (lungs, kidneys, liver). Describe the concept and consequences of acidosis and alkalosis. Electrolyte and organic components and normal values of blood plasma!

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Describe acid-base imbalances (respiratory acidosis and alkalosis, metabolic acidosis and alkalosis) and electrolyte imbalances (hypo and hypernatraemia, hypo and hyperkalaemia, hypo and hypercalcaemia), their most common causes, symptoms, hazards and physiological compensating elements, as well as typical ECG images. Describe the diagnostic options for the detection of electrolyte and water balance and acid-base imbalances and the related nursing tasks.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases.

21) Cerebral vascular catastrophes and their complications, headache

a) Basics of anatomical, physiological and pathophysiological studies

The main characteristics of the elements of the central nervous system. Central nervous system blood supply, meninges, cerebrospinal fluid circulation.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Classification of stroke based on etiology and pathogenesis: forms of hemorrhagic and ischemic stroke, characteristic, physical abnormalities, causes, symptoms, diagnosis. Causes of cerebral hypertension, threatening symptoms, diagnostic possibility. Types, groupings, causes and prognosis of headaches.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, educational tasks, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases.

22) Brain injuries, epilepsy

a) Basics of anatomical, physiological and pathophysiological studies

The division and functions of the skull bones, meninges, brainstem, the role of the reticular formation. Blood flow and regulation in the brain. Pathophysiology of epilepsy.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Classification of brain injuries (face, skull), pathophysiology, causes and symptoms of epidural, subdural and subarachnoid hemorrhage. Causes, signs and diagnosis of basilar skull fractures. Causes of epilepsy, division (focal, generalized), symptoms of grand mal, petit mal.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases.

23) Locomotor disorders of nervous system (Multiple sclerosis, Parkinson's disease, Myasthenia gravis)

a) Basics of anatomical, physiological and pathophysiological studies

The major pathways of the central nervous system, the pyramidal and extrapyramidal pathways. Basic structural elements of the nervous system (gray and white matter, neuron, neuroglia). Chemical synapse. Neuro-muscular junction.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Causes of Parkinson's disease, myasthenia gravis, characteristic of physical and psychiatric symptoms, diagnostic possibilities, prognostic factors. Major symptoms related to the damage of the extrapyramidal system. Etiology and symptoms of multiple sclerosis. Sign of Lhermitte, psychiatric symptoms, diagnosis.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of basic and advanced nursing interventions in the therapy and care of the diseases.

24) Inflammatory diseases of the nervous system

a) Basics of anatomical, physiological and pathophysiological studies

The peripheral nervous system: Origin of cerebral nerve nuclei, function of cerebral nerves, spinal nerves, nerve braids and their function.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Myelitis, meningitis, encephalitis, causes, symptoms, signs of meningeal arousal, diagnostic possibilities, complications. The essence, symptoms and diagnosis of prion disease. Significance of lumbar puncture. Symptoms, diagnosis and prevention of lymphoma.

c) Management, therapy- basic and advanced nursing tasks, prevention

Options for preventing the spread of prion disease. Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases. Significance of vaccinations!

25) Preoperative and postoperative care. Acute abdominal disasters

a) Definitions

Preoperative and postoperative care, surgical preparations in general. Surgical indications, temporal, content division. Tasks of general surgical preparation. Special preparation tasks for abdominal surgeries. Postoperative care. Disorders of homeostasis in the perioperative period.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Pathophysiology of the Ileus. Etiology, symptoms, complaints, diagnosis and prognosis of perforation of cavity organs, acute pancreatitis, ectopic pregnancy, acute appendicitis, abdominal catastrophe caused by trauma, ileus. Etiology of peritonitis, symptoms, complaints, diagnosis, prognosis. Diagnostic options for acute abdominal disasters.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications of basic and advanced nursing interventions in the therapy and treatment of diseases.

26) Neurocognitive disorders: Dementia and memory disorders. Disorders related to psychoactive substances. Alcohol use disorder. Delirium.

a) Basics of anatomical, physiological and pathophysiological studies

Functional systems of central nervous system (noradrenergic, dopaminergic, serotonergic system, localization, excitatory agent). The mode of stimulus transmission in the synapse. Absorption and degradation of alcohol.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

The place of dementias and delirium among mental disorders. The DSM division of these diseases (types of dementias, agitated, muscular delirium), characteristic symptoms and diagnostic criteria. Recognition and diagnosis of dementia. Korsakow syndrome. The psychological consequences of alcohol abuse. Other causes of delirium - internal medicine aspects.

c) Management, therapy- basic and advanced nursing tasks, prevention

Medication options for dementia and delirium. Importance of psychological tests in the diagnosis and monitoring of dementia. Prevention and treatment of alcohol withdrawal and delirium. Psychotherapy and rehabilitation of addictive disorders. The responsibilities of the nurse in caring for psychiatric patients. Observation and management of somatic needs and vegetative symptoms. Legal aspects of acute treatment of psychiatric patients. Forms and possibilities of restrictive measures, documentation.

27) Schizophrenia spectrum disorder. Depressive disorders. Bipolar disorder. Anxiety disorders.

a) Basics of anatomical, physiological and pathophysiological studies

Functional systems of the central nervous system (cholinergic system, localization, excitatory agent). The main characteristics of the elements of the autonomic nervous system.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Causes, types, diagnostic criteria of schizophrenia. Distribution of depressive disorders, symptoms, characteristic symptoms of bipolar disorder. Types of anxiety disorders (Panic Disorder, Social Anxiety Disorder, Agoraphobia, Selective Mutism), Obsessive-Compulsive Disorder. Characteristics of trauma and stress disorders (PTSD, acute stress disorder)

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications of basic and advanced nursing interventions in the therapy and treatment of diseases. The responsibilities of the nurse in guiding the client, aspects of assistive communication. Specialties of medication for psychiatric patients, nursing observations, suicide prevention.

28) Birth control, fertilization, fetal development. Infertility.

a) Basics of anatomical, physiological and pathophysiological studies

Anatomy and physiology of the female genitals. Description of the female menstrual cycle. Description of the process of fertilization. Division of fetal blood circulation, germ plates and its derivatives.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

The concept of infertility, etiology, causes, division, symptoms, diagnostic possibilities. Normal development of the fetus.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the therapeutic possibilities of infertility diseases, the aims, indications, contraindications, effects and complications of basic and advanced nursing interventions (health education, patient education, lifestyle advice).

29) Pregnancy, childbirth

a) Basics of anatomical, physiological and pathophysiological studies

Description of the female menstrual cycle. Anatomy of the female and male genitals. The role and changes of female sex hormones, and hormones produced during pregnancy and those changes during the time of pregnancy.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Signs of pregnancy. Tests performed during regular pregnancy care, risk groups. Prenatal signs, the physiological process of childbirth. Disorders of lying, rotation, holding and integration.

c) Management, therapy- basic and advanced nursing tasks, prevention

Basic and advanced nursing tasks in the dilatation, extension, placental and postplacental stages. Possibilities of intrauterine observation of the fetus. Indication and implementation of sectio caesare, pliers surgeries, application of vacuum extraction.

30) Miscarriages. Pregnancy-related pathological conditions

a) Basics of anatomical, physiological and pathophysiological studies

Features of puberty. Maturation of the ovum, formation of sperm. Description of the hypothalamic-pituitary-gonad axis: hormones, their effect.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Concept, division, characteristic symptoms and diagnosis of abortion.

Causes, symptoms and complications of Hyperemesis gravidarum, Gestational diabetes, Gestational hypertension. Eclampsia, concept, significance and diagnosis of preeclampsia.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the therapeutic possibilities of abortions, the goals, indications, contraindications, effects and complications of basic and advanced nursing interventions (health education, patient education, lifestyle advice). Hyperemesis gravidarum, Gestational diabetes, Gestational hypertension, Eclampsia, Preventive and therapeutic options of Preeclampsia. Treatment of other diseases related to pregnancy.

31) Female reproductive disorders. Bleeding disorders. Endometriosis. Polycystic ovarium syndrome

a) Basics of anatomical, physiological and pathophysiological studies

Stages of the menstrual cycle, hormonal and endometrial changes.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Etiology of bleeding disorders, clinical manifestations. Endometriosis, development of PCOS, cause, symptoms, diagnostic possibilities.

c) Management, therapy- basic and advanced nursing tasks, prevention

Therapeutic options for hemorrhagic disorders, Endometriosis and PCOS. Gynecological laparoscopic interventions, goals, indications, contraindications, effects and complications of basic and advanced nursing interventions (health education, patient education, lifestyle advice).

32) Gynecological inflammatory diseases. Menopause and its effects on the female body. Gynecological surgeries

a) Basics of anatomical, physiological and pathophysiological studies

Changes in female genitals and hormones during menopause

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Etiology, clinical manifestation and diagnostic possibilities of inflammatory diseases of the female genitalia. Causes, symptoms and consequences of menopause.

c) Management, therapy- basic and advanced nursing tasks, prevention

Therapeutic and prevention options for inflammatory diseases of the female genitalia.

Division of gynecological surgeries, tasks of nurses in the perioperative period. Therapeutic options for menopause, goals, indications, contraindications, effects and complications of basic and advanced nursing interventions (health education, patient education, lifestyle advice).

33) Infectious diseases of childhood. Age-related vaccination system

a) Basics of anatomical, physiological and pathophysiological studies

Natural and adaptive immunity, active and passive immunization. Mandatory vaccinations in childhood.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Inflammatory diseases of the upper and lower respiratory tract. Infectious diseases of the gastrointestinal tract. Causes, symptoms, diagnosis and consequences of infectious diseases in childhood (varicella, mumps, measles, rubella, hepatitis A-B-C, scarlet fever, pertussis, haemophilus influenzae, meningitis purulenta).

c) Management, therapy- basic and advanced nursing tasks, prevention

Therapeutic possibilities of infectious diseases in childhood, goals, indications, contraindications, effects and complications of basic and advanced nursing interventions (health education, patient education, lifestyle advice).

34) Neonatology, congenital vitium

a) Basics of anatomical, physiological and pathophysiological studies

Circulation change after birth. Characteristics of the mature newborn. Lactation.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Classification, types and diagnosis of congenital vitium.

c) Management, therapy- basic and advanced nursing tasks, prevention

Newborn care, neonatal resuscitation process. Conservative and surgical treatment of vitium, nursing tasks in the perioperative stage, goals, indications, contraindications, effects and complications of basic and advanced nursing interventions (health education, patient education, lifestyle advice). Feeding the newborn.

35) Neonatology - congenital diseases of the newborn

a) Basics of anatomical, physiological and pathophysiological studies

Characteristics of praemature, immature, dysmature newborns. Apgar's rating system.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Etiology and diagnosis of congenital diseases (respiratory, gastrointestinal, nervous, nephrological, genetic, metabolic diseases), significance of early diagnosis for later outcome.

c) Management, therapy- basic and advanced nursing tasks, prevention

Premature, immature, dysmature newborn care. Tasks and challenges of neonatal intensive centers / departments. Conservative and surgical treatment of congenital diseases (respiratory, gastrointestinal, nervous, nephrological, genetic, metabolic diseases). Goals, indications, contraindications, effects, complications of basic and advanced nursing interventions (health education, patient education, lifestyle advice). Significance of prevention and early detection of developmental disorders. Newborn screening.

36) ECG and significant arrhythmias

a) Basics of anatomical, physiological and pathophysiological studies

Cardiac pacing and conduction system. Rules for ECG placement, forms of leads. Characteristics of physiological ECG waves. Rules for ECG analysis.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Causes and symptoms of atrial and ventricular arrhythmias, characteristics of the ECG image (sinus tachycardia, bradycardia, atrial flutter and fibrillation, AV blocks, Tawara bundle- branch blocks, extrasystoles and forms, signs of ventricular tachycardia, ventricular fibrillation, infarction and angina). Diagnosis of arrhythmias (invasive and non - invasive).

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases. Cardioversion, defibrillation, use of AED semi - automatic defibrillator).

37) Health sociology. Public care. Prevention

- a) The social definition of health and disease. Social causes of illness; the relationship between social inequalities and health status. Analysis of the domestic demographic situation.
- b) The parts of Hungarian primary health care, the gatekeeping function of general practitioner services, the purpose and methods of the concept of community care. Concept, levels, methods of prevention. Tasks of caring for chronic diseases (COPD, diabetes mellitus, hypertension) in community care.
- c) Vaccination program, mandatory screening methods for the detection of diseases or risk factors in Hungary.

38) Oncology: gastric, colorectal, pancreatic cancers

a) Definitions

Describe the concept of health, disease, cancer. Describe the concepts of morbidity, mortality, incidence, prevalence.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Describe the epidemiology and factors contributing to the development of gastric, colorectal, pancreatic tumors, the symptoms of the diseases, diagnostic possibilities, TNM classification.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases.

39) Oncology: cancer of the male and female genitals

a) Definitions

Describe the causes of tumors, the role of carcinogenic agents (physical, chemical carcinogens, viruses) in the development of tumors. Describe the process of carcinogenesis.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Describe the epidemiology and factors contributing to the development of tumors of the breast, uterus, ovaries, prostate and testis, the symptoms of the diseases, diagnostic possibilities, TNM classification. Describe the significance, implementation and training of breast self-examination, describe the characteristics of breast screening examinations.

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases.

40) Oncology: lung, urinary tract tumors (kidney, bladder), hematopoietic tumors (leukemia, lymphomas)

a) Definitions

Describe the concept, types and significance of tumor markers. Define paraneoplastic syndrome and list a few examples.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Describe the epidemiology and factors contributing to the development of lung and urinary tract tumors, the symptoms of the diseases, diagnostic possibilities, TNM classification. Describe the epidemiology and factors contributing to the development of acute, chronic leukemia, lymphomas (Hodgkin, non-Hodgkin lymphoma, multiple myeloid), the symptoms of the diseases, diagnostic possibilities, TNM classification

c) Management, therapy- basic and advanced nursing tasks, prevention

Describe the goals, indications, contraindications, implementation, effects and complications (health education, patient education, lifestyle advice) of the basic and advanced nursing interventions in the therapy and care of the diseases.

41) First aid, oxiology, unconsciousness

- a) Concept, cause, degrees of unconsciousness; care of an unconscious patient / injured person; airway insurance methods. Clinical and biological death. Division of consciousness and disturbances of consciousness, degrees of severity, common causes.
- b) The concept, purpose, legal and ethical background of first aid; time factor concept, life-threatening symptoms, site characteristics. Primary (device-free) resuscitation: ALS recommendation of the current ERC resuscitation guideline. Adult / pediatric resuscitation. Airway management methods for an unconscious patient.
- c) General symptoms, suspicion of poisoning, protocol of care. Symptoms and treatment of CO, CO₂, alkyl phosphate and other pesticide poisonings, alcohol corrosives, fungi, drug poisoning. Indications and contraindications for gastric lavage. Forensic aspects of the care of poisoned people.

42) Intensive care therapy

a) Basics of anatomical, physiological and pathophysiological studies

Regulation of respiration, forms of O₂, CO₂ transport. External and internal gas exchange. Partial pressures. CO₂ coma, O₂ poisoning. The concept and pathophysiology of multiple organ failure.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Forms of O₂ therapy. Inhalation therapy. Indications, forms and complications of mechanical ventilation. Invasive hemodynamic monitoring, artificial feeding in the intensive care unit. Central venous line insertion, cannula care, PTX and hydrothorax care. The concept of brain death.

c) Management, therapy- basic and advanced nursing tasks, prevention

The goals, indications, contraindications, implementation, effects and complications of the treatment of multiple organ failure, its intensive therapeutic treatment and the related basic and advanced nursing interventions. Tasks of donor care in intensive care. Development, prevention and treatment of VAP.

43) Anesthesia, pain and pain management, anesthesia machine, patient monitorization

a) Basics of anatomical, physiological and pathophysiological studies

Anatomical and physiological concepts of pain.

b) Clinical knowledge – causes, division, symptoms, diagnostic possibilities

Forms of anesthesia (peripheral and general and their division). Use of anesthesia machines, possibilities of patient monitoring. Intubation. Pulseoximetry and its principle of operation, trachea suctioning, arterial blood gas sampling and major deviations.

c) Management, therapy- basic and advanced nursing tasks, prevention

Classification and effects of anesthetics. Methods, indications, side effects of pharmacological and non-pharmacological analgesia and the goals, indications, contraindications, implementation, effects and complications of the analgesia related basic and advanced nursing interventions.

44) Inactivity syndrome

- a) Describe the concept, physiology and pathophysiology of immobility syndrome according to organ systems (metabolic abnormalities, respiratory system, circulatory system, musculoskeletal system, elimination, skin integrity, psychological and social abnormalities).
- b) Describe the concept of wounds, types of wounds, phases of wound healing, characteristics of chronic wounds, innovative wound management techniques.
- c) Describe the process of care for decubitus at different stages. Algorithm of care for the stages of decubitus, knowledge of dressings for wet and dry wound treatment, significance of prevention, algorithm of care during prevention, description of special care tools related to prevention.

45) Loss, death, grief. Hospice, Euthanasia. Burn- out syndrome

- a) Types of loss, experience of loss. Mourning process (Engel, E. Kübler-Ross). Types of death. The needs of the dying. The structure of the team. The role of nursing staff. Caring for the terminally ill and the family. The concept, significance and forms of hospice. Palliative care. Euthanasia. Burnout syndrome.
- b) Describe the concept of geriatrics. Describe the causes, symptoms and diagnostic possibilities of the development of geriatric "7 I".
- c) Presentation of the main elements of the Health Act.

**Wishing a successful preparation:
Institute of Nursing Sciences, Basic Health Sciences and Health- Visiting**

Valid: February, 2022