

TOPICAL PLAN

of practical lessons in Endocrinology for the 5th year students of the Medical Faculty for International Students at the Department of Endocrinology in the fall semester of 2025/2026 academic year

1. Diabetes Mellitus. Classification and diagnosis of diabetes mellitus. Classification of diabetes mellitus, diagnostic criteria for various types of the disease

Definition of diabetes mellitus (DM). Social significance, epidemiology, etiological classification of DM.

Etiology and pathogenesis of DM types 1 and 2, specific and gestational.

Concept of metabolic syndrome. Insulin resistance.

Main clinical manifestations of DM and their differences depending on the type of DM.

Algorithm for diagnosing carbohydrate metabolism disorders (DM and prediabetes). Modern methods for diagnosing DM, evaluation of the results obtained. Express glycemia analysis using test systems

Ensuring epidemiological safety in the provision of medical care.

Rules of medical ethics and deontology when communicating with comorbid patients.

2. Diabetes Mellitus. Modern principles of treatment of diabetes mellitus type 1 and 2. Chronic complications of diabetes mellitus

Goals and objectives of diabetes treatment. Rational nutrition and physical activity of patients depending on the type of diabetes.

Prevention of diabetes types 1 and 2. Innovative method of treating diabetes type 1 based on autologous tolerogenic dendritic cells. Management of patients with prediabetes.

Pathogenetic therapy of diabetes type 1: insulin therapy methods using genetically engineered insulin and insulin analogues, the role of patient education, self-monitoring of glycemia.

Current possibilities of antihyperglycemic therapy for diabetes type 2. Criteria for treatment effectiveness. Preferential provision of patients with diabetes in the Republic of Belarus with drugs and medical devices for self-monitoring. Organization of training in «diabetes schools».

Application of new technologies in the treatment of diabetes and obesity: insulin pumps, daily glycemic monitoring, transplantation, bariatric (metabolic) surgery. Making up a diet taking into account carbohydrate units. Calculating the insulin dose. Methods of administering insulin with an insulin syringe and an insulin pen.

Chronic complications of diabetes: definition of the concept, classification.

Diabetic microangiopathies: general mechanisms of development. Diabetic retinopathy: stages of development, diagnosis, prevention and treatment. Diabetic nephropathy: stages of development, clinical manifestations, diagnosis and tactics of patient management. Diabetic neuropathy: classification, diagnosis, treatment. Diabetic foot syndrome. Features of foot care. Prevention of lower limb amputations in diabetes.

Tactics of managing patients in hypoglycemic and hyperglycemic coma.

3. Thyroid diseases

Classification of thyroid diseases. Principles of goiter syndrome diagnostics. Prevalence of thyroid diseases in the Republic of Belarus.

Nodular goiter. Algorithm for examining patients with nodular goiter. Principles of monitoring and treatment of nodular goiter depending on its form.

Acute thyroiditis: definition, etiology, pathogenesis, clinical picture, diagnosis, differential diagnosis, treatment principles.

Subacute thyroiditis: definition, etiology, pathogenesis, clinical picture, diagnosis, differential diagnosis, treatment principles.

Hashimoto's thyroiditis (autoimmune thyroiditis): etiology, pathogenesis, clinical picture, diagnosis, differential diagnosis, treatment principles.

Hypothyroidism syndrome: classification, epidemiology, definition, etiology, pathogenesis, main clinical symptoms. Algorithm for examining a patient with suspected hypothyroidism syndrome. Treatment of hypothyroidism. Tactics for managing patients in hypothyroid (myxedema) coma.

Thyrotoxicosis syndrome: epidemiology, definition, classification, etiology, pathogenesis, main clinical symptoms. Algorithm for examining a patient with suspected thyrotoxicosis syndrome. Thyrotoxic myocardial dystrophy. Autoimmune (endocrine ophthalmopathy). Principles of treating thyrotoxicosis syndrome. Tactics for managing patients in thyrotoxic crisis.

4. Diseases of the parathyroid glands

Hyperparathyroidism: definition, classification, epidemiology, etiology, pathogenesis, clinical picture, diagnostics, differential diagnostics, modern principles of treatment. Tactics of patient management in hypercalcemic crisis.

Hypoparathyroidism: definition, classification, epidemiology, etiology, pathogenesis, clinical picture, diagnostics, differential diagnostics, modern principles of treatment. Tactics of patient management in hypocalcemic crisis.

5. Disease of the adrenal glands

Polycystic ovary syndrome: insulin resistance and other causes of the disease. Modern methods of diagnostics, differential diagnostics, non-drug and drug treatment in patients with this pathology.

Congenital dysfunction of the adrenal cortex: definition, etiopathogenesis, clinical forms and their manifestations, diagnosis, differential diagnosis, principles of treatment.

Physiological and pathological causes of hyperprolactinemia. Modern methods of diagnosis and treatment of this pathology.

Hypogonadism in men and women: causes, clinical manifestations in different age periods, diagnosis, differential diagnosis, determination of expediency and principles of replacement therapy.

Causes of short stature, etiology, growth hormone deficiency (congenital, acquired), pathophysiology. The main symptoms characteristic of congenital growth hormone deficiency. Short stature diagnosis. Treatment of short stature, indications and contraindications for treatment with recombinant human growth hormone, prognosis.

6. Hypothalamic-pituitary system diseases

Hypersomatotropism syndrome: definition, epidemiology, etiology, pathogenesis, clinical picture (features depending on the age of disease manifestation), diagnostic and treatment tactics.

Hyperprolactinemia syndrome (hyperprolactinemic hypogonadism): definition, epidemiology, etiology, pathogenesis, clinical picture in men and women, diagnostic and treatment tactics.

Hypopituitarism syndrome: definition, epidemiology, etiology, pathogenesis, clinical picture in men and women, diagnostic and treatment tactics.

Diabetes insipidus: definition, epidemiology, etiology, pathogenesis, clinical picture, diagnostics, treatment principles.

Diagnosis of pituitary tumors by MRI using neural networks.