

MINISTRY OF HEALTH OF UKRAINE

ODESA NATIONAL MEDICAL UNIVERSITY

Department of Propaedeutics of Internal Diseases and therapy

CONFIRMED by
Rector for scientific and pedagogical work

Eduard BURIACHKIVSKYI

29.08 ' 2023

**WORKING PROGRAM IN THE DISCIPLINE
"ENDOCRINOLOGY"**

Level of higher education: second (master's degree)

Field of knowledge: 22 «Health care»

Specialty: 221 «Dentistry»

Educational and professional program: Dentistry

2023

The working program is compiled on the basis of the educational and professional program "Dentistry" for the training of specialists of the second (master's) level of higher education in the specialty 221 "Dentistry" of the field of knowledge 22 "Health care", approved by the Academic Council of ONMedU (minutes No. 9 dated 23/06/2023).

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The working program is approved at the meeting of the department of propaedeutic of internal medicine Minutes No. 1 dated 30/08/2023.

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Approved by the subject-cycle methodological commission for therapeutic of ONMedU
Minutes No. 1 dated 31/08/2023

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Revised and approved at the meeting of the department of propaedeutic of internal medicine
Minutes No. __ dated __/__/20__.

Head of the department

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Revised and approved at the meeting of the department of propaedeutic of internal medicine
Minutes No. __ dated __/__/20__.

Head of the department

_____ Olena YAKIMENKO

1. Description of the discipline:

Name of indicators	Field of study, specialty, specialization, level of higher education	Characteristics of the discipline
Total number: Credits: 1 Hours: 30 Content modules: 3	Field of expertise 22 "Healthcare"	<i>Full-time form of study</i> <i>Mandatory discipline</i>
	Specialty. 221 "Dentistry"	<i>Year of preparation: 3</i>
		<i>Semester VI</i>
		<i>Lectures (4 hours)</i>
		<i>Seminar (0 hours)</i>
		<i>Practical (14 hours)</i>
		<i>Laboratory (0 hours)</i>
		<i>Independent work (12 hours)</i> <i>including individual assignments (0 hours)</i>
		<i>Form of final control - credit</i>

2. Purpose and objectives of the discipline, competencies, program learning outcomes.

Objective: Mastering by the applicant of higher education of knowledge and formation of elements of professional competencies of examination of the patient and assessment of the main manifestations of diseases of the endocrine system and improvement of skills and competencies acquired in the study of previous disciplines to achieve the main final goals defined in the Standard of training of a specialist in the specialty 221 "Dentistry".

Objectives:

1. conduct interviews and clinical examinations of patients with major diseases of the endocrine system and analyze their results;
2. identify etiological and pathogenetic factors of the most common diseases of the endocrine system;
3. analyze a typical clinical picture, identify clinical variants and complications of the most common diseases of the endocrine system;
4. to establish preliminary diagnosis of the most common diseases of endocrine system;
5. prescribe laboratory and instrumental examination of patients with the most common diseases of the endocrine system;
6. based on the evaluation of laboratory and instrumental examination results, to make a differential diagnosis, substantiate and establish a clinical diagnosis of the most common diseases of the endocrine system;
7. determine the necessary work and rest regimen in the treatment of the most common diseases of the endocrine system;

8. determine the necessary therapeutic nutrition in the treatment of the most common diseases of the endocrine system;
9. determine the principles and nature of treatment in the treatment of the most common diseases of the endocrine system;
10. prescribe treatment, including prognosis-modifying treatment, for the most common diseases of the endocrine system and their complications;
11. determine the tactics of emergency medical care based on the diagnosis of an emergency;
12. carry out primary and secondary prevention of the most common diseases of the endocrine system;
13. assess the prognosis and performance of patients with the most common diseases of the endocrine system;
14. perform medical manipulations;
15. Maintain medical records;
16. comply with the requirements of ethics, bioethics and deontology in their professional activities.

The process of studying the discipline is aimed at forming elements of the following competencies:

Integral competence (level 7) according to the requirements of the NQF:

The ability to solve typical and complex specialized tasks and problems in the field of health care in the specialty "Dentistry", in professional activities or in the process of study, which involves research and/or innovation and is characterized by complexity and uncertainty of conditions and requirements.

● **General (GC):**

GC2. Knowledge and understanding of the subject area and understanding of professional activities.

GC3. Ability to apply knowledge in practical activities.

GC7. Ability to search, process and analyze information from various sources.

GC8. Ability to adapt and act in a new situation.

GC9. Ability to identify, formulate and solve problems.

GC11. Ability to work in a team.

GC13. Ability to act in a socially responsible and conscious manner.

● **Special (SC):**

SC1. Ability to collect medical information about the patient and analyze clinical data.

SC2. Ability to interpret the results of laboratory and instrumental studies.

SC3. Ability to diagnose: determine the preliminary, clinical, final, concomitant diagnosis, emergency conditions, diseases of organs and tissues of the oral cavity and maxillofacial of the facial area.

SC6. Ability to determine the rational mode of work, rest, diet in patients in the treatment of diseases of organs and tissues of the oral cavity and maxillofacial region.

SC7. Ability to determine the tactics of managing patients with diseases of the organs and tissues of the oral cavity and maxillofacial region with concomitant somatic diseases.

SC8. Ability to perform medical and dental procedures.

evacuation measures.

SC11. Ability to determine the tactics, methods and provision of emergency medical care.

SC14. Ability to maintain regulatory medical records.

SC18. Ability to provide pre-hospital care according to tactical medicine protocols.

Program learning outcomes (PLOs):

PLO2. Collect information about the general condition of the patient, assess the patient's psychomotor and physical development, the condition of the maxillofacial organs, and evaluate information about the diagnosis based on the results of laboratory and instrumental studies (according to list 5).

PLO3. To prescribe and analyze additional (mandatory and optional) examination methods (laboratory, radiological, functional and/or instrumental) according to the list 5, patients with diseases of organs and tissues of the oral cavity and maxillofacial region for differential diagnosis of diseases (according to the list 2).

PLO4. Determine the final clinical diagnosis in accordance with the relevant ethical and legal standards, by making an informed decision and logical analysis of the obtained subjective and objective data of clinical, additional examination, differential diagnosis under the supervision of the attending physician in the conditions of the medical institution (according to list 2.1).

PLO9. Determine the nature of the work, rest and necessary diet in the treatment of dental diseases (according to list 2) on the basis of a preliminary or final clinical diagnosis by making an informed decision using existing algorithms and standardized schemes.

PLO10. Determine the tactics of managing a dental patient with somatic pathology (according to list 3) by making an informed decision according to existing algorithms and standard schemes.

PLO19. To comply with the requirements of ethics, bioethics and deontology in their professional activities.

PLO21. Perform medical manipulations on the basis of preliminary and/or final clinical diagnosis (according to lists 2, 2.1) for different population groups and in different conditions (according to list 6).

As a result of studying the discipline, a higher education student must:

Know:

- The most important etiological and pathogenetic factors in the formation of pathological processes in the human body in diseases of the endocrine system.
- Methodological bases of clinical examination of a patient, patient examination schemes and writing a medical history in diseases of the endocrine system.
- Methodological bases of interviewing and physical examination of the patient - examination, palpation, percussion, auscultation in diseases of the endocrine system.
- The most important symptoms and syndromes in the clinic of endocrine diseases and their semiological interpretation in diseases of the endocrine system.
- The most important changes in the oral cavity in the most common diseases of the endocrine system.
- Clinical and diagnostic interpretations of the most important laboratory and instrumental studies in diseases of the endocrine system.
- Basic principles and methods of prevention in diseases of the endocrine system.
- Basic principles and methods of treatment for diseases of the endocrine system.

To be able to:

- Conduct interviews and physical examinations of patients and analyze their results in diseases of the endocrine system.
- Draw up a patient examination plan for the typical course of the most common diseases of the endocrine system.
- Analyze the results of basic laboratory and instrumental research methods in diseases of the endocrine system.
- Identify the leading symptoms and syndromes in diseases of the endocrine system.
- Identify the most important changes in the oral cavity in the most common diseases of the endocrine system.
- Demonstrate the ability to methodically correctly present the results of a patient's examination in the form of a medical history with justification of the diagnosis of diseases of the endocrine system.
- Determine a plan of preventive measures for diseases of the endocrine system.
- Determine a treatment plan for diseases of the endocrine system.
- Demonstrate the ability to evaluate the effectiveness of preventive and therapeutic measures for diseases of the endocrine system.

3. Content of the discipline

Content module №1 Diabetes mellitus

Topic 1: Diabetes mellitus. Modern classification. Etiology, pathogenesis, clinic. National program "Diabetes mellitus".

Definition and modern classification of diabetes mellitus. Epidemiology of diabetes in Ukraine and in the world, morbidity forecast, prevalence of diabetes. The main risk factors and mechanisms of type 1 diabetes. Type 1 diabetes mellitus: etiology, pathogenesis. Clinic of diabetes mellitus. The main clinical symptoms of diabetes mellitus. Characteristics of internal organ damage in diabetes mellitus. Typical changes in the oral cavity. Diagnosis of diabetes mellitus. Indications and rules for conducting a glucose tolerance test. Diagnostic value of determining glycated hemoglobin, C-peptide, glucosuria, ketonuria.

Topic 2: Diabetes mellitus type 2. Clinic, diagnosis, principles of treatment. Chronic complications of diabetes mellitus. Emergency conditions in diabetes mellitus.

The main risk factors and mechanisms of type 2 diabetes. Etiology and pathogenesis of diabetes mellitus. Type 2 diabetes mellitus: the role of genetic predisposition, obesity, external factors. Complaints, features of examination of patients and physical examination data in type 2 diabetes. Changes in the dentoalveolar system and manifestations on the mucous membranes. Principles and basic methods of prevention of type 2 diabetes mellitus.

General principles of diabetes mellitus therapy. Criteria for compensation of carbohydrate metabolism in patients with type 2 diabetes. Insulin therapy. Modes of insulin therapy: traditional, intensified and pump. Protocols of care for patients with type 1 diabetes mellitus.

Treatment algorithm for type 2 diabetes mellitus. The main methods of treatment of type 2 diabetes mellitus: rational nutrition, dosed physical activity, drug therapy, teaching

the patient to exercise self-control. Diet therapy for diabetes mellitus. Drug therapy: insulin sensitizers (metformin, thiazolidinediones), insulin secretagogues (sulfonylurea derivatives, glinides), incretin drugs (analogues of glucagon-like peptide 1 (GLP-1), dipeptidyl peptidase inhibitors (DPP-4), α -glucosidase inhibitors, glyphosins (blockers of glucose reabsorption in the kidneys), insulin therapy. Protocols of medical care for patients with type 2 diabetes mellitus.

Chronic complications of diabetes mellitus: etiopathogenesis, classification, clinic, prevention and treatment.

The most common comatose states in diabetes mellitus (hyperketonemic, hypoglycemic coma), mechanism of development, clinical manifestations, emergency care (correction of glycemia, metabolic disorders, tissue hypohydration), and "low-dose" insulin tactics.

Content module #2

Diseases of the thyroid gland and pilosebaceous glands

Topic 3. Diseases of the thyroid gland. Hypothyroidism. Etiology, pathogenesis, clinic, diagnosis and principles of treatment. The role of the dentist in prevention.

The main etiologic factors of thyroid damage. Hypothyroid syndrome. Classification of hypothyroidism. The main clinical manifestations of hypothyroidism, the concept of hypothyroid coma. Definition of the concept of "iodine deficiency states". Manifestations of iodine deficiency. Determination of the size of the thyroid gland. The concept of simple non-toxic and nodular goiter. Influence of exogenous environmental factors and man-made disasters on the state of the thyroid gland and the prevalence of its pathology. The importance of using iodized salt in the prevention of iodine deficiency diseases.

Topic 4. Diseases of the thyroid gland. Hyperthyroidism. Etiology, pathogenesis, clinic, diagnosis and principles of treatment. The role of the dentist in prevention.

The main etiologic factors of thyroid damage. Hyperthyroid syndrome in thyroid diseases. Diffuse toxic goiter. Main complaints of the patient, results of physical, instrumental and laboratory examination. The concept of thyrotoxic crisis. Mechanism of development, clinical manifestations, emergency care (thyrostatics, beta-blockers, infusion therapy, prevention of cardiovascular complications).

Topic 5. Diseases of the pineal glands. Etiology, pathogenesis, clinic, diagnosis and principles of treatment. The role of the dentist in prevention.

The main etiologic factors of parathyroid gland damage. Hypoparathyroidism and hyperparathyroidism syndrome. Hypoparathyroidism, etiology, pathogenesis, clinic, diagnosis. Hypoparathyroidism in the setting of autoimmune polyendocrinopathies. Subclinical. Treatment of hypoparathyroidism.

Hyperparathyroidism. Etiology. Pathogenesis. Classification. Clinic, clinical forms of hyperparathyroidism. Diagnosis. Differential diagnosis. Treatment. Indications for surgical treatment. Drug therapy.

Content module #3

Diseases of the adrenal glands and pituitary gland

Topic 6. Diseases of the adrenal glands. Etiology, pathogenesis, clinic, diagnosis and principles of treatment. The role of the dentist in prevention.

The main hormones of the adrenal cortex and medulla. The main etiologic factors of adrenal gland damage. Classification of adrenal diseases. Definition of the concept, prevalence of acute and chronic adrenal cortical insufficiency. Chronic adrenal insufficiency (Addison's disease). Etiology, pathogenesis, clinic, diagnosis, prevention and treatment. Acute adrenal insufficiency. Etiology, pathogenesis, clinic, diagnosis, prevention and treatment. Classification of adrenal tumors. Itzen-Cushing's syndrome. Clinic, diagnosis and differential diagnosis, treatment. Primary hyperaldosteronism (Cone's syndrome). Clinic, diagnosis and differential diagnosis, treatment. Pheochromocytoma. Clinic, diagnosis and differential diagnosis, treatment.

Topic 7. Diseases of the pituitary gland. Etiology, pathogenesis. Clinic, diagnosis and principles of treatment. Credit.

The main etiologic factors of the hypothalamic-pituitary system. Classification of diseases of the pituitary gland. Clinic, diagnosis, treatment, prevention of pituitary diseases.

4. Structure of the discipline

Topics to be covered	Number of hours					
	Total	including				
		lectures	seminars	practical	laboratory	SRS
Topic 1: Diabetes mellitus. Modern classification. Etiology, pathogenesis, clinic. National program "Diabetes mellitus".	3	1	0	2	0	0
Topic 2: Diabetes mellitus type 2. Clinic, diagnosis, principles of treatment. Chronic complications of diabetes mellitus. Emergency conditions in diabetes mellitus.	7	1	0	2	0	4
Topic 3. Diseases of the thyroid gland. Hypothyroidism. Etiology, pathogenesis, clinic, diagnosis and principles of treatment.	4	1	0	2	0	1

The role of the dentist in prevention.						
Topic 4. Diseases of the thyroid gland. Hyperthyroidism. Etiology, pathogenesis, clinic, diagnosis and principles of treatment. The role of the dentist in prevention.	4	1	0	2	0	2
Topic 5. Diseases of the pineal glands. Etiology, pathogenesis, clinic, diagnosis and principles of treatment. The role of the dentist in prevention.	4	0	0	2	0	2
Topic 6. Diseases of the adrenal glands. Etiology, pathogenesis, clinic, diagnosis and principles of treatment. The role of the dentist in prevention.	4	0	0	2	0	2
Topic 7. Diseases of the pituitary gland. Etiology, pathogenesis. Clinic, diagnosis and principles of treatment. Credit.	4	0	0	2	0	2
<i>Together</i>	30	4	0	14	0	12
<i>Individual tasks</i>	0	0	0	0	0	0
Total hours	30	4	0	14	0	12

5. Topics of lectures / seminars / practical / laboratory classes

5.1. Topics of lecture classes

№	Topic title	Number of hours
1.	Diabetes mellitus. Etiology, pathogenesis, classification, diagnosis, complications. Principles of treatment. Changes in the dentoalveolar system	2

	and manifestations on the mucous membranes. The role of the dentist in prevention and early diagnosis.	
2.	Diseases of the thyroid and parathyroid glands. Etiology, pathogenesis, clinic, diagnosis, complications, principles of treatment. The role of the dentist in prevention and early diagnosis.	2

	Together	4
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5.2. Topics of seminar sessions

Seminar classes are not provided.

5.3. Topics of practical classes

№	Topic title	Number of hours
1.	Diabetes mellitus. Modern classification. Etiology, pathogenesis, clinic. National program "Diabetes mellitus".	2
2.	Diabetes mellitus type 2. Clinic, diagnosis, principles of treatment. Chronic complications of diabetes mellitus. Emergency conditions in diabetes mellitus.	2
3.	Diseases of the thyroid gland. Hypothyroidism. Etiology, pathogenesis, clinic, diagnosis and principles of treatment. The role of the dentist in prevention.	2
4.	Diseases of the thyroid gland. Hyperthyroidism. Etiology, pathogenesis, clinic, diagnosis and principles of treatment. The role of the dentist in prevention.	2
5.	Diseases of the pineal glands. Etiology, pathogenesis, clinic, diagnosis and principles of treatment. The role of the dentist in prevention.	2
6.	Diseases of the adrenal glands. Etiology, pathogenesis, clinic, diagnosis and principles of treatment. The role of the dentist in prevention.	2
7.	Diseases of the pituitary gland. Etiology, pathogenesis. Clinic, diagnosis and principles of treatment. Credit.	2
	Together	14

5.4. Topics of laboratory classes

Laboratory classes are not provided.

6. Independent work of a higher education student

№	Name of the topic / types of tasks	Number of hours
1.	Comatose states in diabetes mellitus. Emergency care.	4
2.	Endemic goiter. Etiology. Clinic. Diagnosis. Addison's disease. Causes of the disease. Diagnosis. Adrenal coma. Emergency care.	2
3.	Emergency care for insufficiency of the pineal glands, thyrotoxic crisis.	2
4.	Acromegaly. Etiology. Clinic. Diagnosis. Dental manifestations	2
5.	Secondary osteoporosis. Dental manifestations.	2
	Together	12

7. Teaching methods

Practical classes: conversation, solving clinical situational tasks, practicing patient questioning skills, practicing physical examination skills, instruction and practice of skills on simulation models, training exercises on diagnosing the most common diseases of the endocrine system.

Independent work: independent work with the recommended basic and supplementary literature, with electronic information resources, independent work with the bank of test tasks of the Krok-2 type, independent development of algorithms for communicating with the patient, independent development of practical skills in physical examination of the patient.

8. Forms of control and evaluation methods (including criteria for assessing learning outcomes)

Current control: surveys, assessment of practical skills, level of theoretical knowledge, passing the analysis of the results of the patient's examination, assessment of communication skills during a role-playing game, solving situational clinical problems, assessment of activity in the classroom.

Final control: credit.

Assessment of current learning activities in a practical class:

1. Assessment of theoretical knowledge on the topic of the class:
 - Methods: survey, solving a situational clinical problem
 - maximum grade - 5, minimum grade - 3, unsatisfactory grade - 2.
2. Assessment of practical skills and manipulations on the topic of the lesson:
 - Methods: assessment of the correctness of practical skills
 - maximum grade - 5, minimum grade - 3, unsatisfactory grade - 2.
3. Evaluation of work with a patient on the topic of the lesson:
 - Methods: assessment of: a) communication skills with the patient and his/her parents, b) correctness of prescription and evaluation of laboratory and instrumental studies, c) compliance with the algorithm of differential diagnosis, d) justification of the clinical diagnosis, e) preparation of a treatment plan;
 - maximum grade - 5, minimum grade - 3, unsatisfactory grade - 2.

The grade for one practical lesson is the arithmetic mean of all components and can only have an integer value (5, 4, 3, 2), which is rounded according to the statistical method.

Criteria for the current assessment in the practical class

Assess ment.	Evaluation criteria
"5"	Higher education applicants are fluent in the material, actively participate in the discussion and solution of a situational clinical problem, confidently demonstrate practical skills during the examination of the patient and interpretation of clinical, laboratory and instrumental research data, express their opinion on the topic of the class, demonstrate clinical thinking.
"4"	Higher education applicants have a good command of the material, participate in the discussion and solution of a situational clinical problem, demonstrate practical skills during the examination of the patient and interpretation of clinical, laboratory and instrumental research data with some errors, express their opinion on the topic of the class, demonstrate clinical thinking.
"3"	Higher education applicants have insufficient knowledge of the material, are not confident in discussing and solving a situational clinical problem, demonstrate practical skills in examining a patient and interpreting clinical, laboratory and instrumental research data with significant errors.
"2"	Higher education students do not know the material, do not participate in the discussion and solution of a situational clinical problem, do not demonstrate practical skills during the examination of a patient and interpretation of clinical, laboratory and instrumental research data.

Credit is awarded to an applicant who has completed all the tasks of the work program of the discipline, actively participated in practical classes, completed and defended an individual assignment, has a current average grade of at least 3.0 and has no academic debt.

The test is carried out: at the last lesson before the start of the examination session - in the tape system of education, at the last lesson - in the cycle system of education. The grade for the test is the arithmetic mean of all components on a traditional four-point scale and has a value that is rounded according to the statistical method with two decimal places.

9. Distribution of points received by higher education students

The obtained grade point average for the discipline for students who have successfully completed the work program of the discipline is converted from the traditional four-point scale to points on a 200-point scale, as shown in the table:

Table for converting a traditional grade into a multi-point scale

Traditional four-point scale	Multipoint 200-point scale
Excellent ("5")	185 - 200
Good ("4")	151 - 184
Satisfactory ("3")	120 - 150
Unsatisfactory ("2")	Below 120

A multi-point scale (200-point scale) characterizes the actual performance of each student in mastering the educational component. The conversion of the traditional grade (grade point average for a discipline) into a 200-point scale is performed by the University's

Information Technology Department.

According to the points received on a 200-point scale, the achievements of applicants are evaluated according to the ECTS rating scale. Further ranking according to the ECTS rating scale allows to evaluate the achievements of applicants in the educational component who study in the same course of one specialty, according to the points they received.

The ECTS scale is a relative and comparative rating system that establishes the applicant's belonging to the group of the best or worst among the reference group of fellow students (faculty, specialty). Grade A on the ECTS scale cannot be equal to grade A, and grade B cannot be equal to grade B, etc. When converting from a multi-point scale, the limits of grades "A", "B", "C", "D", "E" on the ECTS scale do not coincide with the limits of grades "5", "4", "3" on the traditional scale. Applicants who have received grades "FX" and "F" ("2") are not included in the list of ranked applicants. The grade "FX" is assigned to applicants who have scored the minimum number of points for current academic activities, but who have not been credited with the final control. The grade "F" is assigned to applicants who have attended all classes in the discipline, but have not gained an average score (3.00) for the current academic activity and are not allowed to take the final control.

Applicants studying in the same course (one specialty), based on the number of points gained in the discipline, are ranked on the ECTS scale as follows:

Conversion of traditional grade in the discipline and the sum of points to the ECTS scale

Evaluation on the ECTS scale	Statistical indicator
A	Top 10% of applicants
B	The next 25% of applicants
C	The next 30% of applicants
D	The next 25% of applicants
E	The next 10% of applicants

10. Methodological support

- Work program of the discipline
- Silabus
- Methodological developments for practical classes
- Guidelines for independent work of higher education students
- Multimedia presentations
- Situational clinical tasks
- Role-playing scenarios (if necessary)
- Electronic bank of test tasks by subdivisions in the discipline

Educational and methodological literature:

1. Internal diseases: a textbook / OO Yakymenko, VV Klochko, OE Kravchuk and others; edited by Prof. OO Yakymenko - 2nd ed: ONMedU, 2023. 436 p.
2. Methods of objective examination in the clinic of internal diseases: textbook / O.O. Yakymenko, O.E. Kravchuk, V.V. Klochko et al. - Odesa, ONMedU, 2013. 154 p.

11. Questions to prepare for the final control

1. Interviewing and examination of patients with diseases of the endocrine glands. Semiotic analysis of signs.
2. Etiology and pathogenesis of diabetes mellitus.
3. Type 2 diabetes mellitus: the role of genetic predisposition, obesity, and external factors. Classification of glycemic disorders, clinical forms of diabetes mellitus.
4. The main clinical symptoms of diabetes mellitus. Characteristics of internal organ damage in diabetes mellitus. Diagnostic criteria for diabetes mellitus and other categories of hyperglycemia.
5. The main methods of diabetes treatment are diet therapy, dosed physical activity, and glucose-lowering pharmacotherapy. Oral hypoglycemic drugs. Insulin therapy, classification of insulin drugs, short-acting and long-acting drugs.
6. Chronic complications of diabetes mellitus: stages of development, diagnosis, differential diagnosis, treatment and prevention.
7. Emergency conditions in diabetes mellitus Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment.
8. Diffuse toxic goiter: etiology, pathogenesis, clinical manifestations and treatment
9. Hypothyroidism: etiology, pathogenesis and clinical signs, treatment
10. Thyroiditis: classification, etiology, clinical course, diagnosis, treatment.
11. Hyperparathyroidism. Clinic, clinical forms, treatment.
12. Hypoparathyroidism. Clinic. Diagnosis. Differential diagnosis. Treatment.
13. Chronic adrenal insufficiency (Addison's disease). Etiology, pathogenesis, clinic, diagnosis, prevention and treatment.
14. Acute adrenal insufficiency. Etiology, pathogenesis, clinic, diagnosis, prevention and treatment.
15. Itzen-Cushing's syndrome. Clinic, diagnosis and differential diagnosis, treatment.
16. Primary hyperaldosteronism (Cone's syndrome). Clinic, diagnosis and differential diagnosis, treatment.
17. Pheochromocytoma. Clinic, diagnosis and differential diagnosis, treatment. Etiology and pathogenesis. Clinic. Diagnosis and differential diagnosis. Treatment.
18. The main diseases of the pituitary gland. Etiology and pathogenesis. Clinic. Diagnostics. Treatment.
19. Obesity. Etiology and pathogenesis. Classification. Clinic. Diagnosis. Treatment.

A LIST OF PRACTICAL SKILLS:

1. Method of palpation of the thyroid gland.
2. Methods for determining the degree of goiter.
3. Mastering the skills to analyze the data of laboratory research methods (glucose tolerance test, glycemic profile, glycated hemoglobin).
4. Methods of medical care in patients with ketoacidotic and hypoglycemic coma.
5. Mastering the skills of interpreting the data of ultrasound examination of the thyroid gland.
6. Mastering the skills of interpreting ECG results to characterize thyroid function.
7. Mastering the skills of interpreting computed tomography and MRI data of the adrenal glands.
8. Mastering the skills of interpreting craniogram data, as well as CT and MRI data of

the skull.

9. Methods for determining the degree of obesity by BMI.

12. Recommended literature

Main literature:

1. Internal diseases: a textbook / OO Yakymenko, VV Klochko, OE Kravchuk et al. eds. 2nd ed: ONMedU, 2023. 436 p.
2. Endocrinology in dental practice : a textbook. [for students of higher educational institutions of the Ministry of Health of Ukraine] / edited by L.E. Bobryyova, A.K. Nikolishin ; L.E. Bobryyova, V.M. Bobryyov, L.P. Gordienko [et al: Publisher S. V. Govorov, 2021. 176 p.
3. Perederiy V.G., Tkach S.M. Fundamentals of internal medicine in 3 volumes. Manual. Vinnytsia. New book. 2018.- 784c.
4. Davidson's Principles and Practice of Medicine 23rd Edition. Editors: Stuart Ralston, Ian Penman, Mark Strachan Richard Hobson. Elsevier. - 2018. - 1440 p.
5. Endocrinology: textbook / Ed. by prof. Petro M. Bodnar.- 4th ed. updated - Vinnitsa: Nova Knyha, 2017. - 328 p.

Additional:

1. Endocrinology: textbook for students of higher medical schools. IV level of accreditation / [P.M. Bodnar, G.P. Mikhalchyshyn, Y.I. Komisarenko et al. - 4th ed. updated and supplemented. - Vinnytsia: New book, 2017. - 500 p. : ill. 2.
2. Standards for the provision of medical care to patients with pathological conditions of the thyroid and pilosebaceous glands under the influence of negative environmental factors (third edition, expanded) / Edited by O.V. Kaminsky - Kharkiv: "Yurait, 2017. 312 p.
3. Order of the Ministry of Health of Ukraine of 29.12.2014 No. 1021 "Unified Clinical Protocol for Primary, Emergency, Secondary (Specialized) and Tertiary (Highly Specialized) Medical Care "Type 1 Diabetes Mellitus in Young People and Adults".
4. Macleod's Clinical Examination / Ed. G.Douglas, F.Nicol, C.Robertson.- 13th ed.- Elsevier. 2013. - 471 p.
5. Bates' Guide to Physical Examination and History Taking / Ed. Lynn S. Bickley, Peter G. Szilagyi. - Wolters Kluwer, 2017. - 1066 p.
6. Harrison's Endocrinology. Ed. by J. Larry Jameson, Mc Graw - Hill., New York, Chicago, Toronto. e.a. 4th edition, 2016. - 608 p.

13. Electronic information resources

1. <http://moz.gov.ua> - Ministry of Health of Ukraine
2. www.ama-assn.org - American Medical Association
3. www.who.int - World Health Organization
4. www.dec.gov.ua/mtd/home/ - State Expert Center of the Ministry of Health of Ukraine
5. <http://bma.org.uk> - British Medical Association
6. www.gmc-uk.org - General Medical Council (GMC)
7. www.bundesaeztekammer.de - German Medical Association

8. <https://onmedu.edu.ua/> - Odesa National Medical University
9. <https://onmedu.edu.ua/kafedra/propedevtiki-vnutrishnih-hvorob-ta-terapii/> - Department of Propedeutics of Internal Medicine and Therapy, Odesa National Medical University