Appendix 17
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Public Health
Kyrgyz Republic
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CATALOG OF COMPETENCE

on the specialty "Endocrinologist»

POSTGRADUATE LEVEL

Catalog of competencies (postgraduate level) on the specialty "Doctor of Endocrinology" developed by a working group consisting of: Moldobaeva M. S. (Chairman, Doctor of Medical Sciences, Prof., Head of the Department of Propaedeutics of Internal Diseases with the course of Endocrinology), Tolombaeva N. T., Attokurova R. M. (Deputy Chairman), Petrova A. S., Vinogradova A.V., Dzhusupbekova S. B.

The materials of the state educational standard of postgraduate medical education on the specialty "Endocrinologist" were used in the development of the competence catalog.

The catalog was widely discussed by the staff of the I. K. Akhunbaev KSMA,
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EXPLANATORY NOTE

Currently, the Kyrgyz Republic is actively implementing health sector reforms. The system of medical education is undergoing significant changes, as one of the fundamental systems that provide practical healthcare with highly professional personnel.

Diseases of the endocrine system are among the most common diseases in therapeutic practice. According to the latest data, the number of patients with diabetes mellitus (DM) in the world over the past 10 years has increased more than 2 times. According to the forecasts of the International Diabetes Federation, 642 million people will suffer from diabetes by 2040. The most dangerous consequences of the global epidemic of diabetes are its systemic vascular complications-nephropathy, retinopathy, damage to the main vessels of the heart, brain, and peripheral vessels of the lower extremities. These complications are the main cause of disability and mortality in patients with diabetes. The proportion of the population with prediabetes (impaired glucose tolerance) is increasing even more rapidly, their number is already more than 318 million people, and by 2040 it will increase to 481 million people. In Kyrgyzstan, the same trend and the actual prevalence of the disease in our country can be 3-4 times higher than officially registered and, according to the IDF, should be approximately 180,200 people. Prevention and treatment of diabetes and, especially, its complications, requires large financial resources the cost depends not only on the patient, but also on the public health. Timely diagnosis and effective treatment of DM would delay the occurrence of complications and save the cost of their treatment. The population of the Kyrgyz Republic is susceptible to thyroid diseases: endemic goiter, thyrotoxicosis, thyroiditis, and others. Therefore, a number of state documents on the prevention and control of iodine deficiency were adopted. Other diseases of the endocrine system are also on the rise, despite their late diagnosis. Thus, endocrine diseases cause sufficient damage to the health of the population of the Kyrgyz Republic.

When developing the document, the international standards for the training of an "endocrinologist" were also taken into account, but the fact that the duration of postgraduate training is 2 years after completing the residency "General Practitioner" in accordance with the Law "On Education" and other regulatory legal acts of the Kyrgyz Republic in the field of postgraduate medical education and approved in accordance with the procedure established by the Government of the Kyrgyz Republic was taken into account.

CHAPTER 1. GENERAL PROVISIONS

1.1. Definition of the specialist "endocrinologist".

"Doctor of endocrinology" is a specialist who has completed training in the program of postgraduate professional education in a clinical residency or professional retraining in the cycle of specialization in the discipline "Endocrinology", which is required to master medical manipulations endocrinological profile, that is, to be able to provide qualified endocrinological care to adults with common diseases of the endocrine system and to carry out basic medical and diagnostic measures, as well as to master the methods of forming a healthy lifestyle and strictly comply with the requirements medical ethics and medical deontology when conducting health-improving, preventive, medical-diagnostic and rehabilitation measures among the population in outpatient and polyclinic conditions, in the hospital and at home.

1.2. Basic principles of the work of the specialist "Endocrinologist»

"Doctor of Endocrinology" uses the following principles in his work:

- Open and unrestricted access to medical care;
- Simultaneous treatment of both acute and chronic diseases of the endocrine system;
- Preventive orientation of care to prevent the impact of risk factors for the development of endocrinological pathology by informing the population and risk groups;
- Duration and continuity of care based on the needs of each patient;
- Coordination of medical care for the patient;
- The principle of cost-effectiveness and feasibility of assistance;
- Respect for the patient's right to self-determination and take into account the views of their family members.

1.3. Purpose of the document

This Catalog of competencies should become part of the regulations for postgraduate training "Doctor of Endocrinology". Based on this catalog:

Defined by:

- the purpose and content of postgraduate training of an endocrinologist

- the level of professional competence, knowledge and practical skills of an endocrinologist.

Developed by:

- training programs for endocrinologists;
- criteria for assessing the quality of training of an endocrinologist;
- standard requirements for the certification of an endocrinologist;
- standards for the examination, treatment, rehabilitation and follow-up of patients;

Organized by:

- learning process;
- professional orientation of medical graduates;

Conducted by:

- certification of the "endocrinologist".

1.4. Users of the document

According to the purpose of the document, the users are:

- Ministry of Public Health of the Kyrgyz Republic
- Educational organizations
- Health organizations
- Professional associations
- Medical practitioners
- Residents
- Other stakeholders

CHAPTER 2. GENERAL TASKS

This chapter lists the general competencies that an endocrinologist should have. The general competencies presented in the Catalog are consistent with international recommendations and approaches that have been summarized by the Royal Society of Physicians of Canada (CanMEDS). According to this approach, an endocrinologist should be not only a professional in his field, but also a manager, a specialist in communication skills, a promoter of a healthy lifestyle, and a research scientist.

2.1. Endocrinologist as a medical specialist/expert

An "endocrinologist" is a doctor who has received special training to provide medical care to the adult population. As a specialist, he provides care to patients within the limits of his professional competence, observing the principles of evidence-based medicine.

As a specialist, an endocrinologist is able to:

- take care of the health of patients and society (assess the risks to the health of patients, give advice on maintaining and promoting health, maintaining a healthy lifestyle, both physically and mentally, recommend screening tests and vaccination in accordance with national protocols);

- advise, accompany and care for patients in cooperation with representatives of other specialties, while respecting their right to self-determination;

- conduct anamnesis collection;

- conduct an examination (clinical examination) of the patient;

- interpret the information obtained during the collection of anamnesis and clinical examination, establish a preliminary diagnosis and differential diagnosis, as well as develop a patient management plan using the results of an objective examination;

- perform the usual tests and additional procedures adopted in this specialty;

- prescribe appropriate diagnostic and therapeutic measures, explain their essence to the patient and interpret the results;

- properly and long-term care for patients with chronic endocrinological diseases, incurable, progressive diseases;

- to advise patients and their families on the formation of a healthy lifestyle and the prevention of diseases;

- perform all diagnostic and therapeutic measures, taking into account the cost/reasonable utility ratio and guarantee the safety of patients, applying the principles of efficiency, expediency and cost-effectiveness;

- store and protect medical information properly;
- maintain and expand their professional competence.

- comply with infection control requirements aimed at reducing the risk of infections associated with the provision of medical care, both in patients and medical personnel;

- be able to conduct pre-test and post-test counseling on planned treatment methods, including informed consent of the patient.

2.2. Communication skills

The "Doctor of Endocrinology" effectively and in accordance with the situation manages relationships with patients, families, contact persons and other specialists involved in the treatment. He bases his decisions and communication of information on mutual understanding and trust.

Competencies

"Doctor of Endocrinology" is capable of:

- build trusting relationships with patients, their families, and other loved ones relatives;

- competently and correctly conduct interviews with the patient;

- receive important information from patients and their environment, discuss it, and share elements of the knowledge gained, taking into account the patient's situation;

- communicate the risks and benefits of diagnostic and therapeutic measures in a form that is understandable to the patient and obtain informed consent;

- make a decision on the diagnostic and endocrinological procedures for disabled and underage patients, discussing these procedures with the appropriate representatives of these patient groups;

- document the information received during consultations / home visits and transmit it in the required time;

- empathize by reporting bad news and responsibly report complications and mistakes.

2.3. Skills of working in cooperation (in a team)

"Doctor Endocrinologist" cooperates with patients, contact persons and other participants of treatment from a wide variety of professional groups, taking into account their experience and opinions.

Competencies

"Doctor of Endocrinology" is capable of:

- cooperate with other specialists and experts from other professional groups, with nurses, especially in providing long-term care to patients with chronic non-communicable diseases;

- recognize differences of interest, accept other opinions, and avoid conflicts and resolve them through cooperation.

2.4. Management skills (manager)

The "endocrinologist doctor" becomes a member of the healthcare system and contributes to the optimization of the work of the healthcare organization in which he works. He carries out his management tasks within the framework of his inherent functions. He sets priorities and consciously decides how to use limited health resources.

Competencies

As a manager, an endocrinologist is able to:

- successfully manage their professional activities and take on management tasks that correspond to their professional position;
- find a balance between his professional and private activities;
- effectively use limited health resources in the best interests of the patient, taking into account efficiency, adequacy and cost-effectiveness;
- evaluate and use relevant information for patient care;
- ensure and improve the quality of medical care and patient safety.

2.5. Skills in the field of health promotion and promotion of a healthy lifestyle.

The "Doctor of Endocrinology" can promote a healthy lifestyle among patients and the population. He can help patients navigate the healthcare system and get appropriate care in a timely manner.

Competencies

"Doctor of Endocrinology" is capable of:

- describing the factors affecting human and social health and promote the preservation and promotion of health;

- recognizing problems that affect the patient's health and take the necessary measures.

2.6. Research Scientist

During his professional activity, the endocrinologist strives to acquire significant knowledge in his specialty, monitors their development and promotes them.

Competencies
As a research scientist, an endocrinologist is able to:

- constantly improve the skills aimed at his professional activity;
- critically comprehend specialized medical information and its sources and take it into account when making decisions;
- inform patients, medical students, other doctors, government officials, and other people who actively care about their health, and support them in their actions to learn;
- promote the development, dissemination and implementation of new knowledge and methods.

2.7. Knowledge in the field of professional ethics

A doctor performs practical activities in accordance with ethical norms and principles, quality standards of medical care and regulatory legal acts in the field of healthcare.

Competencies

As a professional, an endocrinologist is able to:

- to carry out his professional activities in accordance with high quality standards, demonstrating a responsible and careful attitude to patients
- practice ethically and responsibly, respecting the legal aspects of the activities of medical professionals.

CHAPTER 3. SPECIAL TASKS (PROFESSIONAL COMPETENCIES)

Types of activities of the "endocrinologist".

"Doctor of Endocrinology" is obliged to master the following activities and their corresponding personal tasks to provide endocrinological care to the population, in accordance with the regulatory legal documents of the Kyrgyz Republic:

- diagnosis, treatment, prevention and rehabilitation of diseases of the endocrine system;
- provision of emergency and emergency medical care;
- performing medical manipulations;
- palliative care activities;
- compliance with infection safety measures when providing medical care and performing medical manipulations;
- organizational and managerial activities.

A graduate who has completed a residency program in the specialty of an endocrinologist must have the following competencies:

Universal competencies (UC)
- Readiness for abstract thinking, analysis, and synthesis (UC-1).
- Willingness to manage the team, to tolerate social, ethnic, religious and cultural differences(UC-2).

- Readiness to participate in teaching activities in programs of secondary and higher medical education or secondary and higher pharmaceutical education, as well as in additional professional programs for persons with secondary vocational or higher education in accordance with the procedure established by the federal executive body responsible for the development of state policy and regulatory regulation in the field of healthcare (UC-3).

The professional competencies (PC) of the "Endocrinologist" are characterized by:

In preventive activities (PC-1,2,3,4):

- Readiness to implement a set of measures aimed at preserving and strengthening health and including the formation of a healthy lifestyle, prevention of the occurrence and (or) spread of diseases, their early diagnosis, identification of the causes and conditions of their occurrence and development, as well as aimed at eliminating the harmful effects on human health of environmental factors(PC-1).

- Readiness to conduct preventive medical examinations, medical examinations and follow-up of healthy and chronic patients(PC-2).

- Readiness to carry out anti-epidemic measures, organize the protection of the population in the foci of particularly dangerous infections, in case of deterioration of the radiation situation, natural disasters and other emergency situations (PC-3).

- Readiness to use social and hygienic methods of collecting and medical and statistical analysis of information on health indicators of adults and adolescents (PC-4).

In diagnostic activities (PC-5):

- Readiness to identify pathological conditions and symptoms in patients, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Health-related Problems.

- Readiness to make a diagnosis based on a diagnostic study in the field of endocrinology.

- Readiness for differential diagnosis of diseases based on diagnostic studies in the field of endocrinology.

- Willingness to analyze the patterns of functioning of individual organs and systems, to use knowledge of anatomical and physiological bases, the main methods of clinical and immunological examination and assessment of the functional state of the body of patients for the timely diagnosis of a group of diseases of the endocrine system.

In medical activity (PC-6, PC-7):

- Readiness to perform the main therapeutic measures in patients with endocrinological diseases of a particular group of nosological forms that can cause severe complications and (or) death (PC-6);

- Timely identify life-threatening violations of internal organs, use methods of their immediate elimination, and implement anti-shock measures;

- Readiness to prescribe adequate treatment to endocrinological patients in accordance with the diagnosis, to implement an algorithm for choosing drug and non-drug therapy for specialized patients;

- Readiness to provide medical assistance in emergency situations, including participation in medical evacuation (PC-7).

In rehabilitation activities (PC-8):

- Readiness to use natural therapeutic factors, medicinal, non-drug therapy and other methods in patients who need medical rehabilitation and spa treatment (PC-8).

- Willingness to use various rehabilitation measures (medical, social, psychological) for the most common pathological conditions and injuries of the body;

- Readiness to give recommendations on the choice of the optimal regime in the period of rehabilitation of endocrinological patients (motor activity) depending on the morphofunctional status), determine the indications and contraindications to the appointment of physical therapy, physiotherapy, reflexology.

In psychological and pedagogical activity (PC-9):

- Readiness to form the motivation of the population, patients and their families to preserve and strengthen their own health and the health of others (PC-9).

In organizational and managerial activities (PC - 10, 11, 12):

- Readiness to use the standard Documentation adopted in healthcare (laws of the Kyrgyz Republic, technical regulations, international and national standards, orders, recommendations, the international system of units (SI), the current international classification) and the documentation for the assessment of quality and efficiency of healthcare organizations endocrinology profile (PC-10)
- Willingness to use knowledge of the organizational structure endocrinological profile, management and economic activities medical organizations of various types to provide medical assistance, analyze the performance indicators of their structural divisions, evaluate the effectiveness of modern medical-organizational and socio-economic technologies in the provision of medical services to patients with diseases of the endocrine system(PC-11).
- Readiness to organize medical assistance in emergency situations, including medical evacuation (PC-12).

3.1 Common symptoms and syndromes in the practice of an endocrinologist (List 1)

To indicate the level of competence that must be achieved by the end of training in this discipline, the following gradation is used:

Level 1 - indicates that the resident can independently diagnose and treat the majority of patients with this disease or condition accordingly; if necessary, determine the indications for hospitalization.

Level 2 - indicates that the resident is oriented in this clinical situation, makes a preliminary diagnosis and redirects the patient to a secondary or secondary diagnosis the tertiary level for the final verification of the diagnosis and selection of therapy; subsequently, it monitors the prescribed therapy (medical examination).

The letter **"H"** - means that the condition or disease is urgent and indicates the need for emergency diagnosis and / or treatment. The resident is able to assess the patient's condition and begin to provide emergency care and organize urgent hospitalization.

3.1. Common symptoms and syndromes (List 1)

Symptom/The syndrome
Thirst
Dry mouth
Polyuria
Nicturia
Incontinence, urinary retention
Dysphagia
Increased appetite
Diarrhea
Tooth loss
Reduced vision
Nausea, vomiting
Reduced appetite with an addiction to salted food
Persistent spilled, non-intense abdominal pain
Arterial hypertension
Arterial hypotension
Sinus tachycardia
Sinus bradycardia
Constipation
Weight loss, exhaustion
Weight gain
Irritability, tearfulness
Chilliness, numbness of the limbs
Hyperpigmentation of the skin
Rough, dry skin
Strii
Acromegaly
Hirsutism
Alopecia
Lipoid necrobiosis
Trophic ulcers of the foot
Erectile dysfunction
Gynecomastia
Short stature, dwarfism
Tallness, gigantism
Osteoporosis
Myopathy
Ptosis, diplopia, ophthalmoplegia
Menstrual cycle disorder
Persistent headaches and vertigo
Oliguria
Weakness
Fatty hepatosis
Convulsive syndrome
Polyneuropathy

Endocrine ophthalmopathy
Metabolic syndrome
Hyperglycemia
Hypoglycemia
Diabetic foot
Diabetic macroangiopathy
Diabetic microangiopathy
Autonomous neuropathy
Acute hyperglycemia and ketoacidosis syndrome
Hypoglycemia syndrome
Thyrotoxic crisis syndrome
Hypothyroid crisis syndrome
Adrenal insufficiency syndrome
Empty Turkish Saddle syndrome
Sleep apnea syndrome in diseases of the endocrine system

3.2 Common endocrine diseases and conditions (List 2)

Endocrine system diseases	**Level**	**H**
Diabetes mellitus	2	
Type 1 diabetes mellitus	2	
Type 2 diabetes mellitus	2	
Other types of diabetes mellitus	2	
Diabetic retinopathy	2	
Diabetic nephropathy	2	
Diabetic polyneuropathy	2	
Autonomous neuropathy	2	
Diabetic foot Syndrome	2	
Diabetic ketoacidotic coma	2	H
Hypoglycemic coma	2	H
Hyperosmolar coma	2	H
Lactic acid coma	2	H
Types of prevention and self-control in DM	2	
Thyroid diseases		
Hypothyroidism syndrome	2	
Thyrotoxicosis syndrome	2	

Iodine deficiency diseases	2	
Thyroiditis	2	
Nodular goiter	2	
Thyroid cancer	2	
Endocrine ophthalmopathy	2	
Thyrotoxic crisis	2	H
Hypothyroid coma	2	H
Violations of phosphorus-calcium metabolism		
Hypoparathyroidism	2	
Hyperparathyroidism	2	
Diseases of the adrenal glands		
Chronic adrenal insufficiency	2	
Acute adrenal insufficiency	2	H
Tumors of the adrenal cortex	2	
Itsenko-Cushing syndrome	2	
Primary hyperaldosteronism	2	
Pheochromocytoma	2	
Hormone-inactive adrenal tumors	2	
Diseases of the hypothalamic-pituitary system		
Itsenko-Cushing's disease	2	
Hyperprolactinemia syndrome	2	
Tallness Syndrome	2	
Stunting Syndrome	2	
Acromegaly and gigantism	2	
Empty Turkish Saddle syndrome	2	
Hormone-inactive pituitary tumors	2	
Neuroendocrine tumors	2	
Diabetes insipidus	2	

Hypopituitarism	2	
Female genital gland disease Reproductive Endocrinology	2	
Amenorrhea syndrome	2	
Hyperandrogenism syndrome in women	2	
Menopause and menopause	2	
Hermaphroditism syndrome	2	
Ovarian hypofunction	2	
Androgen-producing ovarian tumors	2	
Polycystic ovary syndrome	2	
Diseases of the male sex glands		
Hypogonadism syndrome in men	2	
Cryptorchidism	2	
Gynecomastia syndrome	2	
Premature puberty syndrome	2	
Delayed puberty syndrome	2	
Testicular tumors	2	
Age-related androgen deficiency in men	2	
Klinefelter syndrome	2	
Congenital disorders of sexual differentiation	2	
Multiple endocrine neoplasia syndrome		
Multiple endocrine neoplasia Type I syndrome	2	
Multiple endocrine neoplasia type III syndrome	2	
Obesity		
Obesity	2	
Metabolic syndrome	2	
Emergency conditions in diseases of the endocrine system		

Ketoacidotic coma	2	H
Hypoglycemic coma	2	H
Hyperosmolar coma	2	H
Lactic acid coma	2	H
Thyrotoxic crisis	2	H
Hypothyroid coma	2	H
Acute adrenal insufficiency	2	H
Selected issues of related pathology		
Reproductive Endocrinology	2	
Gestational diabetes	2	
Pregnancy and hypothyroidism	2	
Pregnancy and thyrotoxicosis	2	
Gastropathies in the pathology of the endocrine system	2	
CVS lesion in endocrine system pathology	2	
Kidney and urinary system lesions in the pathology of the endocrine system	2	
Musculoskeletal system lesions in the pathology of the endocrine system	2	
Nervous system lesions in pathology of endocrine system	2	
Surgical treatment of diseases of the endocrine system		
Modern possibilities of surgical treatment of diseases of the endocrine system	2	H
Indications and contraindications to surgical treatment	2	H
Methods and results of surgical treatment of diseases of the endocrine system	2	
Pharmacology in Endocrinology		
Clinical pharmacology and tactics of drug use in diseases of the endocrine system	2	
Side effects of drugs used in endocrinology	2	

Combination of pharmacotherapy with other types of treatment	2	
Variable part		
Self-control training for patients with DM	2	
Ultrasound diagnostics in endocrinology		
Physical properties of ultrasound. Sensors and ultrasonic Reflection and scattering of ultrasound.	1	
Ultrasound diagnostics of diseases of the endocrine system	1	
Radiological diagnostics in endocrinology	1	
Classical methods in radiology. Additional methods (CT, MRI).	1	
Radiation diagnostics of diseases of the endocrine system	1	
Diseases of the endocrine system in the elderly		
Methods of examination of elderly patients with diseases of the endocrine system	2	
Hyperthyroidism in the elderly	2	
Thyrotoxicosis in the elderly	2	
Diabetes mellitus in the elderly	2	
Questions of dietetics in diseases of the endocrine system		
Basic information about the most important types of metabolism: proteins, carbohydrates, fats. Human protein and energy needs	2	
Special diets. Fasting and dietary therapy for diseases of the endocrine system	2	
Calculation of bread units (BU)	2	
Principles of dietary therapy for metabolic syndrome	2	
Principles of diet therapy for obesity	2	
Pathology	1	
Pathological anatomy	1	
	2	

Tasks, organization of clinical and anatomical conferences, commissions for the study of fatal outcomes, medical control commissions		
Principles of formulation of final clinical and pathoanatomical diagnoses	1	
Morphological conclusion on the biopsy material from the endocrine organs	2	
Pathological physiology		
Physiology of the endocrine system	2	
Pathogenesis of major endocrine system syndromes	2	
Iatrogenic diseases		
Medicinal disease	2	
Complications of invasive procedures	2	

POLLIATIVE CARE

Condition / disease	**Level**	**H**
Pain syndrome in diseases of the endocrine system	2	H
The process of dying and assistance at the last stage of life in emergency conditions of the endocrine system	1	

3.3 General patient problems **(List 3)**

	Level
Difficult Patient / Aggressive patient in Endocrinology	1
Disability/disability in diseases of the endocrine system	1
Gender problems in diseases of the endocrine system	1

3.4 Medical manipulations and practical skills (List 4)

An endocrinologist should be able to perform manipulations independently:

№	Manipulation	Quantity
1.	Methods of standard examination of patients with diseases of the endocrine system	200
2.	Independent implementation of the express method for determining blood glucose levels using a blood glucose meter and interpretation of their results	100
3.	To justify the indications for the appointment of the method of the level of glycolized hemoglobin and its assessment	100
4.	Independent implementation of the method of oral glucose tolerance test (PGTT) and interpretation of their results	100
5.	Independent implementation of the methodology for determining the types of sensitivity disorders in diabetic neuropathy and evaluating their results	100
6.	Self-examination of the foot in DM and assessment of its condition	100
7.	Justify the indications for the determination of proteinuria and the calculation of GFR with by rating	100
8.	Justification of target levels of lipid metabolism in DM	60
9.	Justification of target levels of carbohydrate metabolism in DM	100
10.	Justification of target blood pressure levels in DM	100
11.	Justification of indications for the appointment of functional test methods in autonomous neuropathy: Valsalva test, orthostatic test, test with isometric load and their	50
12.	Be able to conduct training in the school of self-control of patients with diabetes and evaluate the final results	50

13.	BMI calculation and interpretation	100
14.	Patient height measurement and evaluation	100
15.	Technique of insulin injections	100
16.	Determination of the regimen and dose of insulin therapy	100
17.	Calculation of bread units (BU)	100
18.	Examination and palpation of the thyroid gland, assessment the degree of enlargement of thyroid gland	100
19.	Justify the indications for the appointment determination of hormo thyroid gland: T4free, TSH, a-TPO and assessment of their indicators	100
20.	Substantiate the indications for thyroid TAPB and evaluate their results	30
21.	Self-determination of ocular symptoms in thyrotoxicosis and their assessment	100
22.	Independent assessment of the Romberg pose, dermography in thyrotoxicosis	50
23.	Independent testing of Khvostek, Trusso, hypoparathyroidism and their evaluation	20

24.	To justify the indications for the appointment of the determination of hormones of the hypothalamic-pituitary system (ACTH, TSH, LH, FSH, STH, prolactin, melatonin, ADH, oxytocin) and the assessment of their indicators	70
25.	To justify the indications for the appointment of the determination of adrenal hormones (cortisol, catecholamines, androgens)and the assessment of their indicators	40
26.	Justify the indications for the appointment of large and small dexamethasone, marching samples, samples with desmopressin and evaluate their results	3
27.	Examination and palpation of the mammary glands. Assessment of their condition	50
28	Examination and palpation of the genitals, general assessment of sexual development	30
29.	Participation in the method of conducting ultrasound examinations	100

	thyroid gland and independent interpretation of their results	
30.	To justify the indications for the appointment of methods of computed tomography and nuclear magnetic resonance of the endocrine system and the independent interpretation of their results.	35
31.	Participation in the Turkish saddle radiography technique and independent interpretation of the results	20
32.	To justify the indications for the appointment of methods of X-ray radiography of the spine, hands and independent interpretation of their results	20
33.	Self-removal of ECG and identification of urgent changes with the organization of further actions (send to a specialist)	50
34.	To justify the indications for the appointment of a method for assessing the biochemical parameters of blood and urine in endocrine diseases and independent interpretation of their results	100
35.	Filling out and maintaining the medical record of an inpatient patient, making an extract from the medical record	100
36.	Filling out and maintaining medical documentation in the polyclinic: medical card of an outpatient patient, statistical card, disability certificate, referral for hospitalization, health resort card, and others	100
37.	Justify the indications for the referral of the VTE patient and filling out the special card	10

3.1 Emergency conditions (List 5)

The "endocrinologist" should be able to independently diagnose and provide emergency care at the pre-hospital stage, as well as determine the tactics of providing further medical care in the following emergency conditions:

1. Anaphylactic shock in diseases of the endocrine system
2. Urticaria and edema of the Quinceprizabolevaniyah endocrine system
3. Ketoacidotic coma according to the severity of the condition
4. Hypoglycemic severity of the condition
5. Hyperosmolar coma
6. Lactic acid coma
7. Thyrotoxic crisis
8. Hypothyroid coma
9. Uremic coma
10. Acute adrenal insufficiency
11. Acute pulmonary and heart failure, in diseases of the endocrine system
12. Clinical death of diseases of the endocrine system

CHAPTER 4.

Recognition criteria and classification of postgraduate education institutions. Categories of postgraduate training institutions

Category A (2 years): Departments of endocrinology of national centers, research institutes and other republican institutions.
Category B (2 years): Departments of endocrinology of city, regional clinics and regional hospitals.

Category C (1 year): Therapeutic and other departments specializing in the care of patients with endocrinological diseases.
Category D (6 months): Medical offices specializing in the field of endocrinology.

Characteristics of institutions for providing postgraduate education

	Category		
Category	**A**	**B**	**C**
Characteristics of the clinic			
Departments of endocrinology of national centers, research institutes and other republican institutions.	+	-	-
Departments of endocrinology of city, regional clinics and regional hospitals.	-	+	+
Medical institutions with outpatient / polyclinic departments	+	+	+
Medical Team			
Head physician-specialist in the field of endocrinology	+	+	+
- university lecturer	+	-	-
- full-time (at least 80%)	+	+	+
- taking part in the training of residents	+	+	-
Assistant to the head-a specialist in the field of endocrinology, who is an employee of the faculty of postgraduate education	+	+	+
At least 1 full-time doctor (including the head) or head of the department	+	+	+
Postgraduate education			
Structured postgraduate training Program	+	+	+
Interdisciplinary training (hours / week)	+	+	+
Participation in scientific research with publication in peer-reviewed journals	+	-	-

Analysis of clinical cases in a multidisciplinary team (endocrinologist, purulent and vascular surgeon, neurologist, nephrologist, cardiologist, ophthalmologist)	+	-	-
Basic medical services in the field of endocrinology			
Express method for determining blood glucose levels using a blood glucose meter	+	+	+
Determination of glycolized hemoglobin	+	+	+
Conducting an oral glucose tolerance test (OGTT)	+	+	+
Determination of sensitivity in diabetic neuropathy	+	+	+
Determination of the regimen and dose of insulin therapy Calculation of bread units (BU)	+	+	+/-
School of self-control of patients with diabetes.			
Fine needle aspiration biopsy of the thyroid gland	+	+/-	-
Conducting large and small dexamethasone, marching samples, samples with desmopressin	+	+/-	-
Immunological studies of hormones(T4 free, TSH, antibodies to TPO, ACTH, TSH, LH, FSH, STH, prolactin, cortisol, androgens, ADH, oxytocin)	+	+	+
Ultrasound of the thyroid gland, adrenal glands	+	+/-	-
CT and MRI of the endocrine system	+	+/-	-

Recognized medical institutions are clinical bases for postgraduate training of an endocrinologist and must meet the requirements according to state educational standards.

CHAPTER 5.Regulations on the examination/attestation

The purpose of the exam / attestation is to determine the level of knowledge and practical skills of those trained in the specialty of an endocrinologist in accordance with the catalog of competencies.

Examination committee

The composition of the committee

Composition of the examination committee:

- 2 representatives of group "A" clinics
- 1 representative of group "B" or "C" clinics
- 2 representatives of the FPME
- 2 representatives of the PMA.

Tasks of the examination /attestation commission committee:

1. organization and conduct of the exam / attestation;
2. conducting the exam and reporting the result;
3. review and correct exam questions as needed;
4. conducting examination questions no later than 1 month before the exam.

Filing an appeal. The candidate may challenge the composition of the expert group. An appeal must be filed before the exam begins. If approved, the exam is postponed for a minimum of 3 months and a maximum of 6 months, a new expert group must be appointed in advance.

Exam Structure:

1. Part: a structured oral exam based on a discussion of clinical cases with minimal criteria for results determined in advance (the examiner uses case descriptions, examination results, X-rays, functional examinations, and other illustrations (60 to 90 minutes).

2. Part: Written exam with multiple choice answers (100 questions in 3 hours).

Admission to the exam.

Graduate of the postgraduate educational program in endocrinology

Exam/attestation evaluation criteria:

The assessment of each part of the exam, as well as the final grade, is given with the mark "passed" or "failed". The exam is successful if both parts of the exam are passed.

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