

INTERNATIONAL HIGHER SCHOOL OF MEDICINE
Department of Introduction to internal medicine & family medicine

SYLLABUS

Endocrine system

2025-2026 academic year

for students of medical faculty

3 course 5 semester groups – according to timetable

4 credits (120 h, including auditoria 70 h, independent work – 50 h)

The final assessment for a course is the exam.

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The Syllabus is considered
at the meeting of the department of Introduction to internal medicine & family medicine
Protocol № 8 dated 24.01. 2026

Head of the department



A.A. Kamchybekova

Course Objective:

Based on comprehensive understanding of mechanisms of the common endocrine system disorders, to learn main symptoms and pathological syndromes, physical examination techniques as well as laboratory and instrumental methods of diagnostics of endocrine system disorders in adults and children.

After study of the discipline the student must have:

Knowledge:

- Causes of pathological abnormalities of the endocrine system, the results of physical, clinical and laboratory, functional and instrumental methods of examining a patient with the most common diseases of the endocrine glands
- Pathophysiological mechanisms of development of symptoms and syndromes in the most common diseases and substantiate pathogenetically justified diagnostic methods in various age groups of patients with the most common diseases of the endocrine system;
- Patterns of functioning of individual organs and systems, mechanisms of development of the main symptoms and syndromes, as well as methods for their identification;
- The essence of methods for clinical, laboratory and functional examination of adults and children with the most common diseases of the endocrine system;
- the essence of normal biochemical processes at the level of organs, systems and the body as a whole, as well as standards for the results of biochemical and clinical studies in diseases of the endocrine system.

Skill:

- Collect necessary information, describe all sections of the “student’s” medical history carefully and competently.
- Analyze and synthesize information about identified pathological symptoms and syndromes affecting the endocrine glands and prescribe an adequate examination for the purpose of reliable diagnosis of diseases;
- Identify the main symptoms using physical examination methods and group them into syndromes based on knowledge of the anatomical and physiological characteristics and patterns of functioning of the endocrine system;
- Analyze the results of clinical, laboratory and functional examination of the body of adults and children in order to diagnose major diseases of the endocrine system;
- Recognize and interpret the results of biochemical and clinical studies, identifies logical relationships between changes in biochemical parameters and the clinical state of the body

Attitude:

- Demonstrate practical skills in collecting patient complaints, his medical history, conducting a physical examination in accordance with the medical history chart at the patient’s bedside;

- Skills in the practical use of methods aimed at identifying the main pathological symptoms and syndromes for the purpose of reliable diagnosis of diseases of the endocrine system;
- Skills in physical examination of patients with diseases of the endocrine system, aimed at identifying the main pathological symptoms and syndromes for the purpose of their reliable diagnosis;
- Skills in conducting basic clinical, laboratory and functional examinations of adults and children with diseases of the endocrine system.
- Skills in making a preliminary diagnosis based on the results of biochemical and clinical studies for endocrine pathology.

• **Pre-requisites.**

- Normal anatomy of endocrine system
- Normal physiology of endocrine glands
- Biochemistry of hormones
- Basic pharmacology
- Introduction to internal medicine (3 semester)

• **Post-requisites.**

- Internal medicine (endocrinology)
- Polyclinic therapy
- Family medicine
- Pediatrics

THEMATIC PLAN OF LECTURES

No	Name	Topic	Hours	Subject / department	Date
1	Unit 1. Disorders of the pituitary, thyroid and parathyroid glands	L1: Topographic anatomy and hormones of the pituitary, thyroid and parathyroid glands.	2	Anatomy	According to the timetable
		L2: Pathophysiology of endocrine	2	Pathology	According to the timetable

		disorders. Disorders of hypothalamo-hypophysal regulation of endocrine glands.			
		L3: Clinical approaches to the diagnosis of short stature in children.	2	Pediatrics	According to the timetable
		L4: Clinical approaches to the diagnosis of thyroid diseases in children.	2	Pediatrics	According to the timetable
		L5: Hyperthyroidism and hypothyroidism syndrome	2	Proped therapy	According to the timetable
		L6: Radiation diagnostics of the endocrine system.	2	Radiology	According to the timetable
2	Unit 2. Disorders of carbohydrate metabolism	L7: Topographic anatomy and hormones of the pancreas	2	Anatomy	According to the timetable
		L8: Hyperglycemia and hypoglycemia syndrome	2	Proped therapy	According to the timetable
3	Unit 3. Adrenal	L9: Syndrome of hyper- and	2	Proped therapy	According to the timetable

	glands and gonads disorders	hypocortisolism.			
		L10: Puberty. Clinical Approaches to Pubertal Disorders.	2	Pediatrics	According to the timetable
	Total		20		

THEMATIC PLAN OF PRACTICAL CLASSES

	Number of units	Topic of practice classes	Hours	Subject/department	Date
.	Unit 1. Disorders of the pituitary, thyroid and parathyroid glands	PC 1: Topographic anatomy and hormones of the pituitary, thyroid and parathyroid glands.		Anatomy	According to the timetable
		PC 2: Pathophysiology of pituitary gland. Common etiology and pathogenesis of hypo- and hyperfunction of thyroid gland.		Pathology	According to the timetable
		PC 3: Clinical presentation and diagnosis of growth disorders in children.		Pediatrics	According to the timetable
		PC 4: Clinical presentation and diagnosis of pituitary and thyroid gland disorders in children.		Pediatrics	According to the timetable
		PC 5: Hyperthyroidism and hypothyroidism syndrome		Prepared therapy	According to the timetable
		PC 6: Syndrome of hyperparathyroidism and hypoparathyroidism		Prepared therapy	According to the timetable

		PC 7: Radiation diagnostics of the endocrine system: pituitary, thyroid and parathyroid glands		Radiology	According to the timetable
		PC 8: Unit 1 submission		Pr oped therapy	According to the timetable
		Total Unit 1	2		
.	Unit 2. Disorders of carbohydrate metabolism	PC 9: Topographic anatomy and hormones of the pancreas		Anatomy	According to the timetable
		PC 10: Hyperglycemia and hypoglycemia syndrome		Pr oped therapy	According to the timetable
		PC 11: Acute hyperglycemia and hypoglycemia syndrome		Pr oped therapy	According to the timetable
		PC 12: Metabolic syndrome		Pr oped therapy	According to the timetable
		PC 13: Unit 2 submission.		Pr oped therapy	According to the timetable
		Total Unit 2	2		
.	Unit 3. Adrenal glands and gonads disorders	PC 14: Topographic anatomy and hormones of adrenal glands		Anatomy	According to the timetable
		PC 15: Common etiology and pathogenesis of hypo- and hyperfunction of adrenal gland.		Pathology	According to the timetable
		PC 16: Syndrome of hyper- and hypocortisolism		Pr oped therapy	According to the timetable
		PC 17: Clinical manifestations and diagnosis of sexual development disorders in children and adolescents		Pediatrics	According to the timetable
		PC 18: Radiation diagnostics of thymus,		Radiology	

		adrenal glands and pancreas			
		PC 19: Unit 3 submission.		Proped therapy	According to the timetable
		Total Unit 3	6		
	Total		0		

THEMATIC PLAN OF INDEPENDENT WORK OF STUDENTS

No	Unit / subject	Name of task	Hours	Department
	Topographic anatomy	- Reading	6	Anatomy
	Pathological physiology	- Reading	6	Pathology
	Radiology	- Reading	8	Radiology
	Pediatrics	- Reading	6	Pediatrics
	Proped therapy	- Reading	12	Proped therapy
1	Disorders of the pituitary gland, thyroid and parathyroid glands.	<ul style="list-style-type: none"> To make a table of goiter classification, WHO To make a table of normal values functional parameters of thyroid gland To make a table of hypothyroidism syndrome. To make a table of thyrotoxicosis. 	4	Proped therapy
2	Disturbance of	<ul style="list-style-type: none"> To make a table on 	4	Proped therapy

	carbohydrate metabolism.	<p>glucose values for glucose metabolism disorders</p> <ul style="list-style-type: none"> • To make a table for hypoglycemia syndrome. • To make a table of hyperglycemia syndrome . • Pancreas hormones, secretion, function in cheme. • Fill the BMI table 		
3	Adrenal glands and gonads disorders.	<ul style="list-style-type: none"> • To make a table of adrenal hormones, secretion, function in scheme • To make a table of the syndrome of hyperfunction of adrenal gland table • To make a table of hypocorticism syndrome table 		Proped therapy
	Total		50	

**Recommended reading for the discipline:
Basic:**

№ refer ences	Author	Title	The year of publishing
1.	B.D.Chaurasia.	Human Anatomy. Vol.1, 48th ed	2020.
2.	Carlos A.G. Machado, MD John A. Craig, MD,	NETTER'S CLINICAL ANATOMY, FOURTH EDITION	2019.
3.	Anne Waugh, Allison Grant	Ross & Wilson Anatomy and Physiology in Health and Illness, 13th Edition	2018
4.	Vinay Kumar, Abul K. Abbas, Jon C. Aster	Robbins "Basic Pathology" 10th edition,	2022
5.	Harsh Mohan	«Textbook of Pathology» 8th edition,	2019
6.	Kumar Abbas	«Essential Pathology»	2021
7.	Bickley L.S. Szilagyi P.G.	Bates' guide to physical examination and history taking, 8th ed.	2017
8.	Dan Longo; Anthony S. Fauci.	Harrison's principles of Internal Medicine,	2023
9.	Ralston S.H.	Davidson's Principles and Practice of Medicine, 23th ed.	2018
10.	Anthony W. Alfrey	Goljan rapid review pathology, 2023.	
11.	Ghai O.P., Paul V.K, Bagga A.	Essential Pediatrics. 8th ed.	2015
12.	Kliegman R.M., Geme III J.W.	Nelson textbook of pediatrics.Vol.1.-21th ed.	2020
13.	Kliegman R.M., Geme III J.W.	Nelson Textbook of Pediatrics. Vol.2. 21st ed.	2020
14.	Mayur Arun Kulkarni, Saurabh S Patil, Amit M Shetty	Conceptual Review of Radiology. Nothing beyond for PGMEE	2018
15.	E. Scott Pretorius, Jeffrey A. Solomon.	Radiology Secrets Plus, 3d edition	2011.

Additional:

№ refer	Author	Title	The year of publishing
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1.	Frank H. Netter, MD	Atlas of human anatomy	2019.
2.	Jerry L. Prince, Jonathan M. Links.	Medical Imaging Signals and Systems. 2nd edition,	2015
3.	John Barone MD, Manuel A. Castro, MD	Kaplan Medical «Preclinical Pathology review»	2023
4.	Ghai O.P., Paul V.K, Bagga A.	Essential Pediatrics. 10th ed.	2023

Grading policy and procedures for all types of work:

For the period of studying the discipline, the student gains points for the relevant parameters (per unit):

- current score - 40 points
- independent work - 20 points
- control score (unit / module) score - 40 points

The overall score per unit is 100 (40+20+40)

Exam 100 points.

The exam is carried out in 2 stages:

Stage 1 - clinical skills exam – 100

Stage 2 - theoretical knowledge exam – 100

The final grade for a course is calculated as the average of the grades for the modules and the exam; $100 \text{ points} = (\text{units } 100 + \text{exam } 100) / 2$

The final grade for a course is signed into the record book.

Grading system for student's achievements

Grading criteria per discipline				
Maximum score	Intervals			
	«unsatisfactory»	«satisfactory»	«good»	«excellent»
Current control - 40	0-23	24-30	31-35	36-40
Interval description	The student refuses to answer or when trying to answer	The student knows the educational material partially.	The student knows program material fluently in a familiar	The student is fluent in educational material of varying complexity and

	<p>demonstrates a complete lack of knowledge of the material.</p> <p>No clinical task has been solved, no practical task has been completed.</p>	<p>Incorrectly performs or disrupts the sequence of clinical examination of the patient.</p> <p>Can apply his knowledge only in a typical familiar situation, and experiences difficulty when changing the question.</p> <p>There are also difficulties in using special skills.</p> <p>Can only solve typical clinical problems and has poor communication skills.</p>	<p>situation and makes two or three mistakes when answering.</p> <p>The student confidently answers additional questions.</p> <p>Able to apply knowledge and relevant clinical skills to a range of routine tasks.</p> <p>There are minor errors in the preparation of the medical history or situational task.</p> <p>Good confidence in communication skills and ability to conduct effective dialogue.</p>	<p>uses information from other disciplines.</p> <p>The student demonstrates the ability to think and perform practical work independently.</p> <p>All tasks of the practical part were completed at a high level, clinical thinking and a non-standard approach to problem solving were demonstrated.</p> <p>He is fluent in communication skills.</p>
Independent work - 20	0-11	12-14	15-17	18-20
	<p>The following are additionally considered</p> <ul style="list-style-type: none"> – logic of reasoning; – original approach to the solution. 			
Inter-val description	student does not	Student demonstrates knowledge	Student completes the task with	Student completed the task

	possess the listed skills.	and understanding of most of the assignment. The student knows the categorical apparatus, can give calculation formulas, and calculate the task.	minor errors. The student masters the categorical apparatus, can classify the factors of a phenomenon, solve the problem and analyze the results obtained.	completely. The student knows the categorical apparatus, can classify the factors of a phenomenon, solve the problem and analyze the results obtained, explain the reasons for deviations from the desired result, defend his point of view, citing facts.
Control work (module) - 40	0-23	24-30	31-35	36-40
Interval description	Number of correct answers to MCQs –49% or less	Number of correct answers to MCQs –50-75 %	Number of correct answers to MCQs – 76-89%	Number of correct answers to MCQs – 90% and above

Conduct Policy:

(lateness, absence, behavior in the auditorium, late submission of work).

- Punctuality and completion of tasks.
- Mandatory attendance of classes.
- Attending class in a clean medical uniform.
- Eliminating conversations on a cell phone in the classroom.
- Active participation in the learning process.
- Doing homework on time.
- Academic detention at the time specified by the teacher.

For violations of the conduct policy, the overall discipline score might be reduced to 1-10 points.

Academic Ethics Policy.

- Be tolerant, respect the opinions of others.
- Formulate objections in the correct form.
- Constructively support feedback in all classes.
- Plagiarism and other forms of dishonest work are unacceptable. Plagiarism includes the following: the absence of references when using printed and electronic materials, quotes, thoughts and works of other authors or students.
- Prompting and cheating during tests, exams, classes is unacceptable as well as passing an exam for another student, unauthorized copying of materials.

For violations of the academic ethics policy, the overall score in the discipline might be reduced to 1-10 points

Guidelines for lessons of the discipline

Unit I Disorders of the pituitary, thyroid and parathyroid glands

Key questions covered in lessons of Unit I.

PC 1: Topographic anatomy and hormones of the pituitary, thyroid and parathyroid glands.

1. The structure of endocrine system.
2. Classification of endocrine glands.
3. Characteristics for the organs of the endocrine system.
4. The thyroid gland, structure, functions, topography.
5. Blood supply of thyroid gland and parathyroid glands.
6. The parathyroid gland, structure, functions, hormones.

Recommended reading for this lesson:

Basic: [1]

Additional: Lecture notes.

PC 2: Pathophysiology of pituitary gland. Common etiology and pathogenesis of hypo- and hyperfunction of thyroid gland.

1. Etiology and pathogenesis of hypo- and hyperfunction of pituitary gland.
2. Syndrome of hypofunction and hyperfunction of endocrine glands. Types: primary, secondary, tertiary.
3. Etiology and pathogenesis of development pituitary nanism, gigantism, acromegaly.
4. Pathophysiological characteristic of partial and total hypophysal failure in children and adults.
5. Etiology and pathogenesis of hypofunction of thyroid gland. Typical disorders in myxedema and cretinism.
6. Etiology and pathogenesis of thyroid gland hyperfunction. Grave's disease.

7. Etiology and pathogenesis of endemic goiter. Role of iodine deficiency in thyroid gland pathology.

Recommended reading for this discipline:

Basic: [4]

Additional: Lecture notes

PC 3: Clinical presentation and diagnosis of growth disorders in children.

4-h

1. Assessment of a child with deviations in growth and plan appropriate referral
2. The most common causes of deviations in growth in children.
3. The Genetic and chromosomal disorders causing deviations in growth
4. The clinical features of a child with short stature
5. **After lesson Student must be able to**
 - ✓ Identify “red flags” of deviations in growth using standardized tools (growth charts, growth velocity, mid-parental height) and plan appropriate referral
 - ✓ Discuss the clinical features of a child with short stature, differentiating between normal variants and pathological causes.
 - ✓ Describe the genetic basis, risk factors, clinical features and management a child with short stature for specific syndromic causes of short stature (using a case example).

Recommended reading for this discipline:

Basic: [9]; [12]; [13]

Additional: [4]; Lecture notes

PC 4: Clinical presentation and diagnosis of pituitary and thyroid gland disorders in children. 4-h

1. The normal functions of the pituitary and thyroid glands in children.
2. The clinical manifestations of common pituitary in pediatric patients.
 - a. Growth hormone deficiency
 - b. Hypopituitarism (congenital and acquired)
 - c. Diabetes insipidus (central)
3. The clinical manifestations of common thyroid disorders in pediatric patients:
 - a. Congenital hypothyroidism
 - b. Acquired hypothyroidism (Hashimoto thyroiditis)
 - c. Hyperthyroidism (Graves’ disease)
4. A systematic diagnostic approach to suspected pituitary and thyroid dysfunction.
5. Red flags requiring urgent referral to a pediatric endocrinologist
6. **After lesson Student must be able to**
 - ✓ Describe the etiology (congenital & acquired), clinical features, management of Hypothyroidism in children
 - ✓ Identify **red flags** requiring urgent referral to a pediatric endocrinologist
 - ✓ Perform routine Child Health checkup including eliciting history, performing examination including growth assessments (using Growth charts) and systemic exam including thyroid

Recommended reading for this discipline:

Basic: [9]; [12]; [13]

Additional: [4] Lecture notes

PC 5: Hyperthyroidism and hypothyroidism syndrome.

1. Common features of hyperthyroidism, classification
2. Grave's disease: clinical features, physical examination, laboratory and instrumental diagnostics.
3. Common features of hypothyroidism, classification, physical examination, laboratory and instrumental diagnostics
4. Goiter: types, physical examination, diagnostics

Recommended reading for this discipline:

Basic: [9]

Additional: Lecture notes, [3]

PC 6: Syndrome of hyperparathyroidism and hypoparathyroidism.

1. Hyperparathyroidism: causes, classification, clinical features, physical examination, laboratory and instrumental diagnostics.
2. Hypoparathyroidism: causes, classification, clinical features, physical examination, laboratory and instrumental diagnostics.

Recommended reading for this discipline:

Basic: [9]

Additional: Lecture notes, [3]

PC 7: Radiation diagnostics of the pituitary, thyroid and parathyroid glands

1. Normal lateral craniogram and its significance in assessing the condition of the pituitary gland.
2. Pituitary adenomas, pituitary pathology syndromes.
3. Pathology of the pituitary gland: Acromegaly. Prolactinoma. Cushing's syndrome. Apoplexy of the pituitary gland.
4. Normal ultrasound anatomy of the thyroid gland. Comparison of morphological, functional and visual components in an ultrasound image.
5. Ultrasound-Topographic relationship of displayed structures. Markers for gland detection on transverse and longitudinal sonograms. The muscles surrounding the thyroid gland in transverse and longitudinal ultrasound sections. Iodine metabolism: inside and outside the organ. Thyroid hormones and their biological effects.
6. Gamma scintigraphy of the thyroid gland. Preparing the patient for the study. Scintigraphic norm in dynamics. Possibilities and limitations of scintigraphic technology.
7. Radiological syndromes of thyroid disease:
 - A. Radiological syndrome of hyperfunction of the thyroid gland. Nodular and diffuse form.

- B. Radiological syndrome of hypothyroidism. Hypothyroidism primary, secondary, tertiary and iodine deficiency.
 - C. Radiological syndrome of benign thyroid tumor.
 - D. Radiological syndrome of malignant tumor of the thyroid gland
8. Thyroid cancer Fine-needle aspiration biopsy in differentiating the malignancy of the pathological process

Recommended reading for this discipline:

Basic: [3]

Additional: Lecture notes

PC 8: Unit 1 control.

1. The main clinical symptoms and signs of the pituitary hypofunction as well as GH deficiency in children.
2. Hyperthyroidism: classification, causes, pathogenesis, clinical features, physical examination, diagnostics.
3. Hypothyroidism: classification, causes, pathogenesis, clinical features, physical examination, diagnostics
4. Types, causes, pathogenesis, clinical features, physical examination findings, diagnostics of hyperparathyroidism.
5. Types, causes, pathogenesis, clinical features, physical examination findings, diagnostics of hypoparathyroidism

Recommended reading for this discipline:

- References listed above
- Lecture notes

Unit 2. Disorders of carbohydrate metabolism

Key questions covered in Unit 2.

PC 9: Topographic anatomy and hormones of the pancreas.

1. Pancreas, structure, topography and function.
2. Blood supply and innervation of pancreas.
3. Hormones of the pancreas.

Recommended reading for this discipline:

Basic: [1]

Additional: Lecture notes

PC 10: Hyperglycemia and hypoglycemia syndrome

1. Hyperglycemia: main causes, clinical features.
2. Diabetes mellitus: classification. Type 1 and type 2 DM. Risk factors of insulinresistancy.
3. Normal glycemic level. Diagnostic criteria for diabetes mellitus. Criteria for prediabetes.
4. Chronic complications of hyperglycemia.

5. Main causes of hypoglycemia. Clinical picture. Physical examination. Laboratory diagnostics.

Recommended reading for this discipline:

Basic: [9]

Additional: Lecture notes, [3]

PC 11: Acute hyperglycemia and acute hypoglycemia syndrome.

1. Ketoacidosis: causes, clinical picture. physical examination, laboratory diagnostics, first help
2. Acute hypoglycemia: causes, clinical picture. physical examination, laboratory diagnostics, first help

Recommended reading for this discipline:

Basic: [9]

Additional: Lecture notes, [3]

PC 12: Metabolic syndrome.

1. Metabolic syndrome: definition, clinical picture, diagnostic criteria.
2. Normal level of lipids

Recommended reading for this discipline:

Basic: [9]

Additional: Lecture notes, [3]

PC 13: Unit 2 control.

1. Hyperglycemia: causes, pathogenesis, clinical features, physical examination findings, diagnostics.
2. Diabetes mellitus: classification. Differences between diabetes mellitus type 1 and type 2.
3. Ketoacidosis: causes, clinical picture. physical examination, laboratory diagnostics, first help.
4. Acute hypoglycemia: causes, pathogenesis, clinical picture. physical examination, laboratory diagnostics, first help

Recommended reading for this discipline:

- References listed above
- Lecture notes

Unit 3. Adrenal glands and gonads disorders

Key questions covered in unit 3.

PC 14: Topographic anatomy and hormones of adrenal glands.

1. The adrenal glands, structure, topography and function.
2. Blood supply of the adrenal gland.
3. Hormones of adrenal glands

Recommended reading for this discipline:

Basic: [3]

Additional: Lecture notes

PC 15: Common etiology and pathogenesis of hypo- and hyperfunction of adrenal gland.

1. Pathophysiology of adrenal cortex.
2. Pathophysiology of primary and secondary hypercortisolism. Cushing's syndrome and Cushing's disease.
3. Etiology and pathogenesis of metabolic and functional disorders in glucocorticoids excess.
4. Etiology and pathogenesis of metabolic and hormonal disorders in mineralocorticoids excess.
5. Pathophysiology of adrenal medulla.
6. Etiology and pathogenesis of acute and chronic adrenal failure.
7. Pathophysiological characteristics of adrenal insufficiency.

Recommended reading for this discipline:

Basic: [5]

Additional: Lecture notes

PC 16: Syndrome of hyper- and hypocortisolism.

1. Hypercortisolism syndrome: causes, types, clinical picture, physical examination, laboratory and instrumental diagnostics.
2. Main differences between ACTH-dependent forms and ACTH-independent forms of Cushing's syndrome.
3. Adrenal insufficiency syndrome: cause, clinical picture, physical, laboratory, instrumental examination.

Recommended reading for this discipline:

Basic: [9]

Additional: Lecture notes, [3]

PC 17: Clinical manifestations and diagnosis of sexual development disorders in children and adolescents 4h

1. Normal sexual development and pubertal milestones in children and adolescents.
2. Sexual Maturity Rating (SMR / Tanner staging).
3. Clinical manifestations of precocious and delayed puberty.
4. A stepwise diagnostic approach to disorders of sexual development.
5. Disorders of sexual differentiation (DSD) and understand principles of diagnosis.
6. Red flags and indications for urgent referral.
7. **After lesson Student must be able to**
 - ✓ Perform Sexual Maturity Rating (SMR),
 - ✓ Recognize precocious and delayed Puberty and refer

- ✓ Perform routine Adolescent Health checkup including eliciting history, performing examination including SMR (Sex Maturity Rating) and systemic exam including Breast exam

Recommended reading for this discipline:

Basic: [9]; [12]; [13]

Additional: [4] Lecture notes

PC 18: Radiation diagnostics of thymus, adrenal glands and pancreas.

1. Adrenal glands, pancreas. MRI anatomy, ultrasound capabilities in assessing the tissue structures of these organs.
2. Diseases of the adrenal glands: Insulinoma. Conn's syndrome. Addison's disease. Pheochromocytoma.
3. Radiation symptoms of pancreatic pathology

Recommended reading for this discipline:

Basic: [15]

Additional: Lecture notes

PC 19: Unit 3 control.

1. Cushing's syndrome: types, causes, pathogenesis, clinical picture, physical examination, laboratory and instrumental diagnostics.
2. Adrenal insufficiency syndrome: causes, types, pathogenesis, clinical picture, physical, laboratory, instrumental examination.

Recommended reading for this discipline:

- References listed above
- Lecture notes

Methodological instructions for the implementation of independent work on the discipline

Methodical Guidelines for Independent Work (Table Completion)

Purpose of the task:

The aim of this independent work is to systematize and consolidate students' knowledge of the endocrine system by completing structured tables. This task helps to develop analytical thinking, clinical reasoning, and the ability to compare physiological and pathological processes.

Task

description:

Students are required to complete tables related to the endocrine system. Each table includes key characteristics of endocrine glands and hormones. While completing the tables, students should use lecture materials, textbooks, and recommended additional sources.

Instructions for completing the tables:

1. Carefully read the title and headings of the table to understand its structure and required information.
2. For each endocrine gland, indicate:
 - Anatomical location

- Hormones produced
 - Main physiological effects of each hormone
3. When required, include:
 - Target organs or tissues
 - Regulation mechanisms (stimulating and inhibiting factors)
 - Clinical significance (hyperfunction and hypofunction)
 4. Use correct medical terminology in English.
 5. Information should be concise, accurate, and logically organized. Avoid copying large fragments of text; summarize the key points in your own words.

Recommendations:

- Use reliable medical sources (textbooks, lecture notes, atlases).
- Pay attention to cause-and-effect relationships between hormones and their actions.
- Compare different glands and hormones to better understand their roles in homeostasis.

Expected

learning

outcomes:

After completing this task, students should be able to:

- Identify major endocrine glands and their hormones
- Explain the physiological effects of hormones
- Understand the basic mechanisms of endocrine regulation
- Apply theoretical knowledge in a structured and systematic form

Form

of

control:

Completed tables are checked for accuracy, completeness, clarity, and correct use of medical terminology.