

**ANATOMO-PHYSIOLOGICAL PECULIARITIES, METHODS OF
EVALUATION, PARACLINICAL METHODS OF INVESTIGATION AND
SEMEIOLOGY OF THE ENDOCRINE SYSTEM DISEASES IN
CHILDREN**

Academic discipline «Pediatric Propedeutics»
Self-study guide for the 3rd year
English medium students

**АНАТОМО-ФІЗІОЛОГІЧНІ ОСОБЛИВОСТІ, МЕТОДИ
ОБСТЕЖЕННЯ ТА СЕМІОТИКА ЗАХВОРЮВАНЬ ЕНДОКРИННОЇ
СИСТЕМИ У ДІТЕЙ**

З дисципліни «Пропедевтика педіатрії»
Методичні вказівки
до самостійної роботи студентів 3-го курсу
медичного факультету

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
Харківський національний медичний університет

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Compiled by: Klymenko V.A.
Sirenko T.V.
Karpushenko J.V.

Анатомо-фізіологічні особливості, методи обстеження та семіотика захворювань ендокринної системи у дітей: метод. вказ. до самост. роботи студентів 3 курсу медичних факультетів / упор. В.А.Клименко, Т.В. Сіренко, Ю.В.Карпушенко. – Харків, ХНМУ, 2016. – 16 с.

Упорядники: Клименко В.А.
Сіренко Т.В.
Карпушенко Ю.В.

Contents

The endocrine system undoubtedly is one of the most important systems in the human body. It plays a role growth and development, tissue function, metabolism, in regulating mood, sexual function and reproductive processes. This system controls and regulates the functions of other organs and systems in the body. As such, failure in the proper functioning of the endocrine system automatically results in the development and emergence of several diseases and disorders.

Specific goals

- To know about embryogenesis of the endocrine system in children.
- To know main morphofunctional peculiarities of the endocrine system in children.
- To know about symptoms of hypo – and hyperfunction of the endocrine hormones
- To get skills of clinical and paraclinical methods of examination of the endocrine system in children.

To know:

1. Embryogenesis of the endocrine system in children
2. The main morphofunctional peculiarities of the endocrine system in children.
3. Main symptoms and signs of the endocrine organs affection (hypo – and hyperfunction) in children.
4. How to interpret results of laboratory and instrumental methods of examination of the endocrine system of children.

To be able to:

1. To demonstrate the technique of interrogation and inspection of the endocrine system.
2. To interpret the results of clinical and paraclinical investigations.
3. To appoint laboratory and instrumental methods of investigations of the endocrine system of children.
4. To conduct syndromic diagnosis of the endocrine system diseases of children.
5. To get skills of care of children with diseases of the endocrine system.

1. Basic skills and knowledge, necessary for the topic study (intradiscipline integration)

Name of the previous discipline	Skills
1. Normal human anatomy	Morphofunctional peculiarities of the endocrine organs of children in different age.
2. Normal physiology	To know the features of functioning of the endocrine system of children

	in different age.
3.Pathophysiology	To identify pathophysiological processes which arise in endocrine system in children.
3.Biochemistry	To have idea of techniques of carrying out some laboratory investigation at pathology of endocrine system.
4. Care for children	Nursing of children with disease of the endocrine system.

Graphical structures of individual issues of the topic.

The list of study materials:

Main:

1. Propaedeutics of Paediatrics: Manual for foreign students / V. A. Fjoklin, V. A. Klymenko, O. M. Plakhotna, T. V. Sirenko, A. I. Kojemiaka, O. V. Sharikadze. – Kharkiv: 2010. – 356 p.
2. Kapitan T. Propaedeutics of children's diseases and nursing of the child / T. Kapitan. – The state cartographical factory, 2006. – 734p.

Additional:

1. Nelson textbook of pediatrics.—19th ed./ [edited by] Robert M. Kliegman... [at. ol], p. SM
2. Ghai O.P. Essential pediatrics (fourth edition). – New Delhi, India: Interpint, 1996.–476 p.
3. Gupte S. The short textbook of pediatrics, 8th edition. – New Deli, India.: Iaypee Brthe others. Medical publishers (P) hTD, 1998. – 617 p.
4. Bickley L.S., Hockelman R.A. Physical examination and History Taking. – Philadelphia, New York, Baltimor.: Lippincott, 1999. – 789 p.

Test questions to the class:

1. What parts does the endocrine system consist of?
2. What do you know about embryogenesis of the endocrine system?
1. Which hormones of hypothalamus do you know? What about their functions?
2. Which hormones of hypophysis do you know? What about their functions?
3. Which hormones of thyroid gland do you know? What about their functions?
4. Which hormones of parathyroid glands do you know? What about their functions?
5. Which hormones of adrenal glands do you know? What about their functions?
6. Which hormones of the pancreas do you know? What about their functions?
7. Which hormones of the gonads do you know? What about their functions?

8. Describe methods of clinical and paraclinical examinations of the endocrine system in children.
9. Describe symptoms of hypo – and hyperfunction of hypophysis.
10. Describe symptoms of hypo – and hyperfunction of thyroid gland.
11. Describe symptoms of hypo – and hyperfunction of parathyroid gland.
12. Describe symptoms of hypo – and hyperfunction of the pancreas.
13. Describe symptoms of hypo – and hyperfunction of adrenal gland.
14. Describe symptoms of hypo – and hyperfunction of gonads.
15. What do you know about care of children with the endocrine system diseases?

Tests for self-control:

1. What is not the basic function of endocrine glands?
 - a) Participation in metabolism
 - b) influence on water and electrolytic metabolism
 - c) growth and development of the child
 - d) regulation the differentiation of tissues
 - e) regulation the psycho-motor development

2. The endocrine gland is not:
 - a) hypothalamus
 - b) hypophysis
 - c) parathyroid glands
 - d) mammary glands
 - e) pancreatic islet of Langerhans

3. Which hormone doesn't secret by anterior lobe of the hypophysis?
 - a) ACTH (adrenocorticotrophic hormone)
 - b) somatotrophic hormone
 - c) vasopressin
 - d) thyroid stimulating hormone
 - e) prolactin

4. Insufficiency of somatotrophic hormone of the hypophysis is the reason of:
 - a) gigantism
 - b) nanism
 - c) diabetes insipidus
 - d) Cushing's syndrome
 - e) thyrotoxicosis

5. What is not the symptom of Cushing's syndrome?
 - a) obesity
 - b) striae

- c) hyperglycemia
 - d) sexual undevelopment
 - e) hypoglycemia
6. The main function of the epiphysis is:
- a) synthesis of melatonin
 - b) stimulating hemopoiesis
 - c) stimulating lactation
 - d) secretion of corticosteroids
 - e) synthesis of progesterone
7. Which cells are in the structure of the thyroid glands?
- a) A, B
 - b) A, B, C
 - c) A,C
 - d) A, B, C, D
 - e) C,D
8. Which cells of the thyroid glands are not capable to absorb iodine?
- a) A
 - b) B
 - c) C
 - d) D
 - e) A and B
9. What disease characterised by iodine insufficiency without disorders of thyroid gland function?
- a) endemic goiter
 - b) toxic goiter
 - c) hypothyroidism
 - d) thyrotoxicosis
 - e) Basedow's disease
10. The basic function of the parathyroid glands is:
- a) the secretion of thyroxin (T4)
 - b) the secretion of triiodothyronine (T3)
 - c) the secretion of calcitonin
 - d) the secretion of parathormone
 - e) the secretion of vitamin D
11. Mark the sign of the hypoparathyroidism:
- a) hypercalcemia and hypophosphatemia
 - b) hypocalcemia and hyperphosphatemia
 - c) hypercalcemia and normophosphatemia

- d) hypocalcemia and hypophosphatemia
- e) hypercalcemia and hyperphosphatemia

12. The cortical layer of the adrenal glands doesn't secrete

- a) corticosterone
- b) cortisone
- c) aldosterone
- d) dopamine
- e) androgens

13. Mark the external symptom of Addison's disease:

- a) Striae on the abdomen and back
- b) Golden-brown pigmentation of the skin
- c) exophthalmos
- d) swelling of the extremities
- e) hyperemia of the face

14. What is the mineralocorticoid?

- a) cortisone
- b) estrogens
- c) adrenaline
- d) dopamine
- e) aldosterone

15. Which hormone does inhibit the release of insulin, glucagon, gastrin and the secretion of hydrochloric acid by stomach?

- a) cholecystokinin
- b) estradiol
- c) somatostatin
- d) corticosterone
- e) noradrenaline

16. Prepubescent period of sexual development of girls begins:

- a) from 5th – 6th years
- b) from 6th to 9-10th years
- c) from 9th-10th to 12th-13th years
- d) from 12th-13th to 14th-15th years
- e) from 14th-15th to 16th-18th years

17. Pubescent period of sexual development of boys begins:

- a) from 2nd to 6th-7th years
- b) from 6th till 10th-11th years
- c) from 10th till 12th-13th years

- d) from 12th till 14th-15th years
- e) from 15th till 16th-17th years

18. Which hormone acts is opposite to the action of glucagon?

- a) insulin
- b) somatostatin
- c) cholecystokinin
- d) cortisone
- e) aldosterone

19. Secretion of which hormones increases during sleep?

- a) somatotropin, prolactin
- b) adrenalin, vasopressin
- c) cortisol, vasopressin
- d) prolactin, cortisol
- e) somatostatin, prolactin

20. The symptoms of hypothyroidism in newborns are:

- a) overweight after birth
- b) long-lasting jaundice
- c) The late separation defecation of the umbilical cord remainder
- d) low weight and absence of jaundice
- e) A, B, C are correct

Tasks for individual work of students:

Work at the bedside, collection of complaints, medical case history, clinical examination of the patient. Analysis of paraclinical laboratory and instrumental methods.

Standards of responses to tests:

1-E; 2- D; 3-C; 4-B; 5- E; 6-A; 7- B; 8- C; 9- A; 10- D; 11- B; 12- D; 13- B; 14- E; 15- C; 16- B; 17- B; 18- A; 19- A; 20- E.

The **maximum number of points** which may be consequently obtained by students is 200 points; this includes 120 points for current educational activity and 80 points for the final lesson.

Current educational activity of students is controlled during practical classes according to specific goals in the course of each practical class as well as during self-training in the hospital department. It is recommended to apply the following means of diagnostics of the students' level of readiness: control of practical skills, solving cases and test control of theoretical knowledge.

The current assessment of students on respective topics is conducted in the traditional 4-point grade scale ("excellent", "good", "satisfactory" and "unsatisfactory") with further conversion into a multiscore scale.

The grade "Excellent" is given when the student knows the program in toto, illustrating the answers with various examples; gives clear and comprehensive answers without any hints; delivers the material without any inaccuracies or errors; performs practical tasks of a different degree of complexity.

The grade "Good" is given when the student knows the whole program and understands it well, gives correct, consistent and structured but not completely comprehensive answers to questions, although he is able to answer additional questions without mistakes; solves all cases and performs practical tasks experiencing difficulties only in the most complex situations.

The grade "Satisfactory" is given to the student based on his satisfactory level of knowledge and understanding of the entire subject. The student is able to solve modified tasks with the help of hints; solves cases and applies practical skills experiencing difficulties in simple cases; is unable to deliver a consistent answer, but answers direct questions correctly.

The mark "Unsatisfactory" is given when the student's knowledge and skills do not meet the requirements of the grade "satisfactory".

Given the number of practical classes the grades are converted into the multiscore scale as follows:

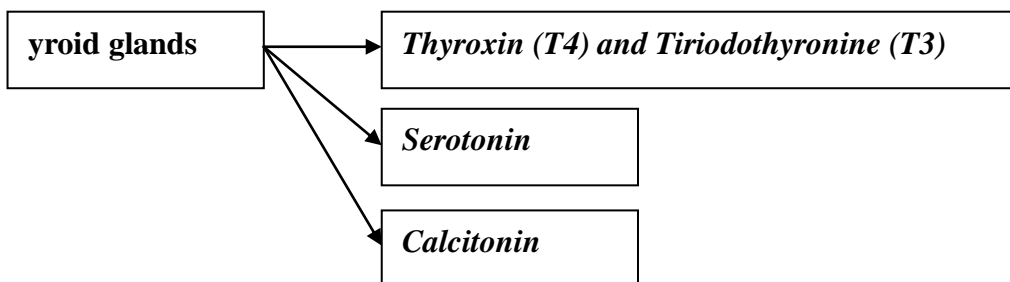
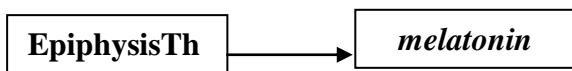
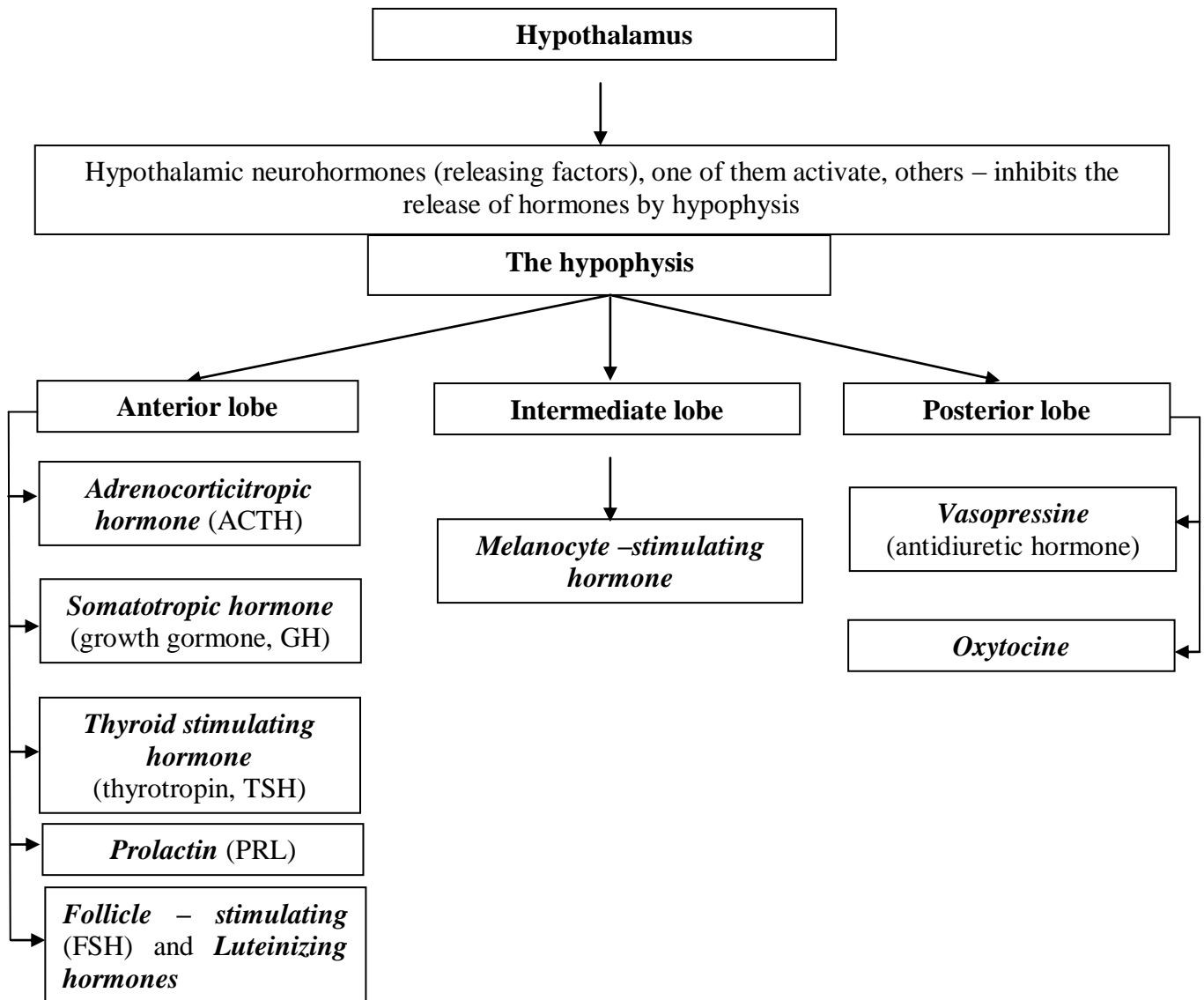
The mark "Excellent" – 72-80 scores

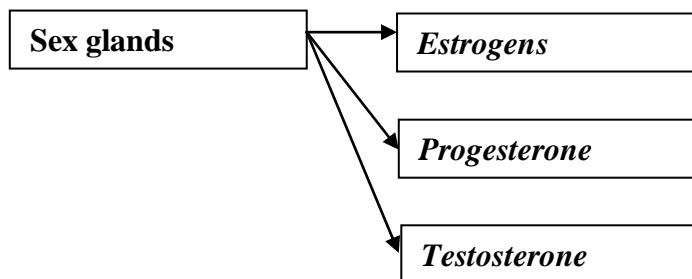
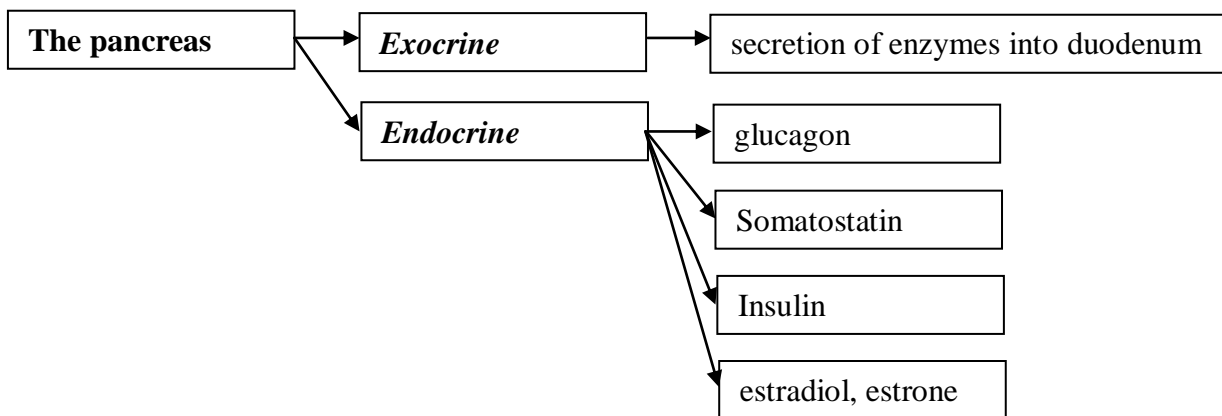
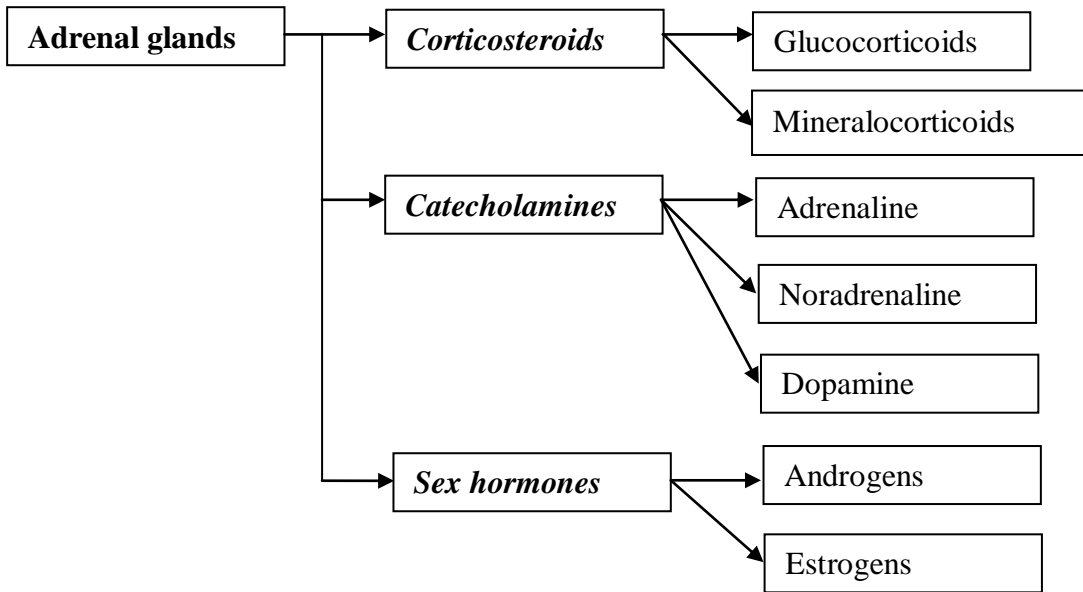
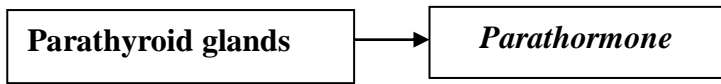
The mark "Good" – 60-71 scores

The mark "Satisfactory" – 50-59 scores

The mark "Unsatisfactory" – 0 scores

Graphological structure to the topic “Anatomophysiological peculiarities of the endocrine system in children”





Для нотаток

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Навчальне видання

**Анатомо-фізіологічні особливості, методи обстеження та семіотика
захворювань ендокринної системи у дітей**

Упорядники: Клименко Вікторія Анатоліївна
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Відповідальний за випуск: Клименко В.А.

Комп'ютерна верстка

Ум. друк. арк. ____ . Тираж ____ прим. Зам. № ____ .
