

SUBJECT CARD
Faculty of Medicine and Health Sciences
Field of studies: Medicine
Form of studies: Full-time
Degree: long-cycle Master's program
Specializations: No specialization
Academic year: 2022/2023

ENDOCRINOLOGY	
SUBJECT	Endocrinology
NUMBER OF ECTS POINTS	5
LANGUAGE OF INSTRUCTION	English
TEACHER(S)	Professor Filip Gołkowski, MD, PhD Professor Daria Handkiewicz-Junak, MD, PhD Professor Barbara Jarząb, MD, PhD Assoc. Professor Ryszard Czepko, MD, PhD Assoc. Professor Daria Handkiewicz-Junak, MD, PhD Assoc. Professor Agata Bałdys-Waligórska, MD, PhD Assoc. Wojciech Wysocki, MD, PhD Assoc. Professor Beata Jurecka-Lubieniecka, MD, PhD Assoc. Professor Jolanta Krajewska, MD, PhD Assoc. Professor Małgorzata Wójcik, MD, PhD Mihał Adamek, MD, PhD Paulina Delijewska, MD, PhD Anna Dittfeld, MD, PhD Katarzyna Doleżał-Ołtarzewska, MD, PhD Agnieszka Florczak, MD, PhD Łukasz Gardjan, MD, PhD Marek Hamm, MD, PhD Małgorzata Haras Gil, MD, PhD Piotr Klimeczek, MD, PhD Magdalena Kołton, MD, PhD Anna Krzentowska-Korek, MD, PhD Bartosz Partyński, MD, PhD Justyna Przybyło, MD, PhD Konrad Samborski, MD, PhD Kamil Stępiński, MD, PhD Agata Turek-Jabrocka, MD, PhD Magdalena Wąs, MD, PhD Malwina Horoszko, MD
PERSON RESPONSIBLE	Professor Filip Gołkowski, MD, PhD
NUMBER OF HOURS	
LECTURES	26 h
CLASSES	37 h

ENDOCRINOLOGY	
SEMINARS	12 h
GENERAL OBJECTIVES	
OBJECTIVE 1	The student should acquire the ability to correctly interpret the etiopathogenesis and symptomatology of diseases of the endocrine system and their complications through the knowledge of the physiological and pathophysiological mechanisms already learned.
OBJECTIVE 2	To get to know and understand modern diagnostics and treatment of endocrine diseases including multiple endocrine neoplasia and malignancies.
LEARNING OUTCOMES	
MK1	Knowledge: Student can explain the mechanism of action of hormones and the consequences of hormone regulation disorders for the human body.
MK2	Knowledge: Student can give reasons, interpret symptoms, select the optimal diagnosis and therapeutic treatment of diseases of the adult endocrine system taking into account the tumors: hypothalamus, pituitary, thyroid, pituitary gland, cortex, and adrenal medulla, ovaries and testes as well as neuroendocrine tumors, multi-lump syndromes, different types of diabetes mellitus and metabolic syndrome, hypoglycemia, obesity, dyslipidemia.
MK3	Knowledge: Student can give reasons, interpret symptoms, give advice and justify the choice of optimal diagnosis and treatment in cases of growth disorders in children, thyroid and adrenal gland diseases, diabetes, obesity, pubertal disorders, and gonadal function, taking into account tumors of the endocrine system.
MK4	Knowledge: Student can give reasons, interpret symptoms, give an appropriate diagnosis and treatment, and give reasons connected with water-electrolyte and acid-base disorders: Dehydration states, conduction states, electrolyte management disorders, acidosis, and alkalosis.
MK5	Knowledge: Student refers to diagnostic imaging techniques, including imaging by radioisotope application, which is considered the methods of choice for diseases of the endocrine system, with particular emphasis on the diagnosis of tumors; correctly interprets the radiological symptomatology of the underlying endocrine system diseases; may list the rules for monitoring by imaging techniques to perform diagnostic procedures; lists indications and contraindications and discusses the principles of preparing patients for the various types of application in endocrinology.

ENDOCRINOLOGY	
MK6	Knowledge: Student can enumerate the consequences of improper nutrition, including prolonged starvation, overeating, and the use of an unbalanced diet, and can correctly interpret the relationship between eating disorders and the functioning of the endocrine system.
MS1	Skills: Student performs a correct anamnesis in an adult patient, taking into account the information relevant for endocrine diagnosis, and shows empathy and respect for the patient.
MS2	Skills: Student carries out a proper medical interview of the child and his family, taking into account the importance in endocrine diagnostics, with empathy and respect for the sick child and his carers.
MS3	Skills: Student plans a suitable diagnostic procedure for diseases of the endocrine system and can identify the optimal treatment of the disease and principles of prevention.
MS4	Skills: Student performs a complete and targeted physical examination of the adult patient and correctly interprets the symptoms of endocrine system diseases.
MS5	Skills: Student performs a complete and specific physical examination of a child of any age and correctly interprets the symptoms that can result from diseases of the endocrine system.
MS6	Skills: Student maintains the medical records of patients treated for endocrine system disorders in compliance with applicable laws and regulations.
MS7	Skills: Student correctly assesses the stage of sexual maturation with regard to pubertal disorders caused by endocrine causes.
MS8	Skills: Student assists with a thin needle biopsy of the thyroid gland and interprets the results of the cytological evaluation.
MC1	Social competency: The competence to establish and maintain a deep and respectful contact with the patient with endocrine disease, as well as to show understanding for worldview and cultural differences.
INTRODUCTORY REQUIREMENTS	
<p>[1] Knowledge of physiology and pathophysiology of the endocrine system; [2] Knowledge of the basics of laboratory and imaging diagnostics; [3] The student is able to properly collect an interview, examine physically, and inform the patient and his/her family regarding the patient's health status, prognosis, treatment methods used and recommendations for further treatment.</p>	
COURSE PROGRAM	DETAILED DESCRIPTION OF THE TOPIC BLOCKS
LECTURE 1	Symptomatology, diagnostics and treatment of non-cancerous thyroid diseases. 2h

ENDOCRINOLOGY

LECTURE 2	Symptomatology, diagnostics and treatment of diseases of the hypothalamus-pituitary system. 2h
LECTURE 3	Symptomatology, diagnostics and treatment of adrenal diseases. 2h
LECTURE 4	Symptomatology, diagnostics and treatment of malignant tumors of the endocrine system. 2h
LECTURE 5	Symptomatology, diagnostics and medical conduct in disorders of carbohydrate and lipid management in adults. 2h
LECTURE 6	Selected disorders of the endocrine system manifested in the neonatal period: congenital hypothyroidism, thyroid dysfunction in premature babies, congenital adrenal hypertrophy, disorders of sexual development, congenital hypothyroidism, neonatal hypoglycemia. Endocrine dysfunctions that occur only in children: Growth disorders (especially hormonal), pubertal disorders (premature and delayed puberty, mild variants of pubertal disorders, hyperandrogenisation and menstrual disorders in girls). 2h
LECTURE 7	Specificity of etiology, symptomatology, diagnosis and treatment of endocrine system disorders related to the developmental phase: Multihormonal hypothyroidism, autoimmune thyroid disorders, nodular goiter and cancer, Cushing's syndrome in children and adolescents, primary and secondary adrenal insufficiency, hyper- and hypoparathyroidism and other disorders of calcium-phosphate balance, diabetes insipidus, pheochromocytoma/paraganglioma in children and adolescents, tumors of the endocrine system in children and adolescents, multiple endocrine adenomatosis syndromes. Diagnosis, treatment and complications of diabetes in children. Obesity in young people. 2h
LECTURE 8	Surgical treatment of the endocrine system diseases. 2h
LECTURE 9	Neurosurgical treatment of the pituitary tumors. 2h
LECTURE 10	Non-isotopic imaging in diseases of the endocrine system. 2h
LECTURE 11	The specificity of treatment of diseases of the endocrine system in pregnancy. 2h
LECTURE 12	Symptomatology, diagnostics and treatment of neuroendocrine tumors. 2h
LECTURE 13	Hyperandrogenism and hypoestrogenism in women and androgen deficiency in males. 2h
CLASS 1	Medical history, physical examination, differential diagnosis and suggestion of adult patient therapy with thyroid disease. 5h
CLASS 2	Medical history, physical examination, differential diagnosis and suggestion of adult patient therapy with adrenal disease. 5h
CLASS 3	Medical history, physical examination, differential diagnosis and suggestion of adult patient therapy with pituitary disease. 5h

ENDOCRINOLOGY	
CLASS 4	Medical history, physical examination, differential diagnosis and suggestion of adult patient therapy with calcium-phosphate balance disorder and neuroendocrine neoplasm. 5h
CLASS 5	Medical history, physical examination, differential diagnosis and suggestion of adult patient therapy with diabetes mellitus. 5h
CLASS 6	Preparation of the medical record of adult patient with endocrine disease. 5h
CLASS 7	Medical history, physical examination, differential diagnosis and suggestion of child with endocrine system disorder. 5h
CLASS 8	Thyroid ultrasound. 2h
SEMINAR 1	Diagnosics and treatment of goiter, autoimmune and functional disorders of the thyroid gland. 2h
SEMINAR 2	Diagnosics and treatment of pituitary tumors. 2h
SEMINAR 3	Diagnosics and treatment of calcium-phosphate disorders. 1h
SEMINAR 4	Diagnosics and treatment of adrenal disorders. 2h
SEMINAR 5	The specificity of the course and diagnostic and therapeutic procedure in diseases of the endocrine system (except diabetes) in pregnancy. 1h
SEMINAR 6	Treatment of carbohydrate and lipid disorders taking into account the peculiarities of the procedure in pregnant women. 2h
SEMINAR 7	Diagnosics and treatment of malignant tumors of the endocrine system, including isotopic methods. 2h
DIDACTIC METHODS (APPLIED)	
	Lecture; Seminar; Discussion; Multimedia presentation; Case study; E-learning; Brain storm; Bedside teaching; Computer exercises.
STUDENTS WORKLOAD	
NUMBER OF HOURS UNDER SUPERVISION	75 hours
NUMBER OF PREPARATION HOURS	75 hours
TOTAL NUMBER OF HOURS FOR THE COURSE	150 hours

ENDOCRINOLOGY

CONDITIONS FOR COURSE COMPLETION

Attendance at all lectures, classes and seminars is obligatory.
The condition for admission to the exam is seminars and clinical classes.

METHODS OF ASSESSMENT

IN TERMS OF KNOWLEDGE	Credit for all seminar classes based on attendance and preparation for discussion of the topics discussed in each class.
IN TERMS OF SKILLS	Completion of clinical exercises based on the demonstration of the following skills: medical history, physical examination, differential diagnosis, treatment proposals and keeping medical records of a patient with endocrine diseases.
IN TERMS OF SOCIAL COMPETENCY	Observation of behavior towards patients, colleagues, evaluation of work in the group.
FORMATIVE	Not applicable.
SUMMATIVE (I & II TERMS)	<p>Terms I and II: an oral examination, consisting of answers to 3 randomised questions, one of which requires a problem analysis of a clinical case. Assessment system in accordance with the faculty protocol of the oral examination. Each response is evaluated on a score scale of 0-3. The number of points is awarded according to the following rules:</p> <p>0 – no response, or wrong answer; 1 – incomplete answer, requires additional questions, contains errors, lack of understanding; 2 – satisfactory response (no major errors), sufficient understanding; 3 – comprehensive answer, presented with full understanding.</p>

GRADING SCALE

3,0 (SATISFACTORY)	5 points
3,5 (SATISFACTORY PLUS)	6 points
4,0 (GOOD)	7 points
4,5 (GOOD PLUS)	8 points
5,0 (VERY GOOD)	9 points

BASIC LITERATURE

[1] Strachan MWJ, Newell Price JDC. Endocrinology [in] Ralston SH, Penman I, Strachan M, Hobson R. Davidson's Principles and Practice of Medicine. Elsevier 2018; 629-689.

SUPPLEMENTARY LITERATURE

[1] Jameson JL, De Groot L. Endocrinology. Adult and Pediatric. Elsevier Saunders 2016.