MINISTRY OF HEALTH CARE OF UKRAINE

DANYLO HALYTSKY LVIV NATIONAL MEDICAL UNIVERSITY

Department of operative surgery and topographic anatomy

"APPROVED"

First Vice-Rector on Scientific and Pedagogical Work Associate Professor Iryna SOLONYNKO

WORK ACADEMIC PROGRAME AT DISCIPLINE

of choice

"Modern aspects of clinical anatomy in thoracic surgery" (for the students of 4 course) teaching of specialists of the second (master's) level of higher education branch of knowledge 22 "Health care" Speciality 222 "Medicine"

Improved at methodical council of the	Improved at profile methodical council
department of operative surgery with	meeting of medical-biological discipline
topographical anatomy	protocol № <u>3</u> « <u>23</u> » <u>06.</u> 2022.
protocol № <u>12</u> « <u>16</u> » <u>06.</u> 2022.	
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Introduction

Working curriculum at discipline "Modern aspects of clinical anatomy in thoracic surgery"

according standards of specialists of the second (master's) level branch of knowledge 22 "Health care" Speciality 221 "Dentistry" educational program of master of Medicine

Description of the educational discipline (annotation).

The working curriculum on discipline "Modern aspects of clinical anatomy in thoracic surgery" for students of the IV courses of the medical faculty on the specialty 222 "Medicine" is concluded on the basis of Regulations on the working curriculum of discipline developed in accordance with the Regulation on organization of educational process at Danylo Halytsky Lviv National Medical University, improved by the Academic Council of the University on February 18, 2015, the protocol No. 1-BP and orders of the rector on the improvement of educational process organization. The purpose of the Regulation is to standardize the content, volume, sequence and organizational forms of student study, as well as the forms and means of current and final knowledge control.

Working curriculum of discipline is the normative document of the university, which is developed by the staff of the department for each academic discipline on the basis of the branch standard of higher education in accordance with the curriculum.

The working curriculum should ensure: the content of the department standards of higher education through the direct link between the content of the discipline and the objectives of higher education (skills and abilities of the specialist defined in the OC); compliance with licensing and accreditation terms and conditions; compliance with "Standards and Recommendations for Quality Assurance in the European Higher Education Area"; the possibility of using disciplinary competencies as an information base for the development of diagnostic options; uniqueness of the criteria for evaluation of academic achievements.

The working curriculum of the discipline in its content is a document that defines the amount of knowledge that must be mastered by the student in accordance to the requirements of the educational and qualification characteristics of the future specialist, the algorithm for studying the discipline content taking into account of interdisciplinary connections, eliminating the duplication of the educational material at study of common various courses of problems, necessary methodological support, components and technology for assessing students' knowledge.

The working curriculum as a normative document laying the ideology of the content of education and organization of the educational process, determines the educational and methodological principles of the department; all educational and

methodical materials are developed on its basis for the educational process, including independent students work.

Structure of	Nu	umber of hou	Year of study	Type of		
discipline	In all	Audito	orium	OCW		control
		Lectures (hrs.)	Pract. lessons (hrs.)	(hrs.)		
Name of discipline:	2 credits				IV course	
"Modern aspects of	ECTS/	-	26	34	(7 semester)	
clinical anatomy in	60 hrs.					Credit
thoracic surgery"						
Content module 3						

The subject of discipline study is the layered structure of the body and the principles of operations.

Interdisciplinary connections: histology, normal physiology, surgery, therapy, radiology, neurology, dentistry, etc.

1. The purpose and objectives of discipline

1.1. The purpose and tasks of the discipline: "Modern aspects of clinical anatomy in thoracic surgery" is based on the goals of the educational-professional program of graduates preparation of a higher medical school and are determined by the content of those system knowledge and skills that a specialist should acquire. The knowledge that students receive from the academic discipline "Modern aspects of clinical anatomy in thoracic surgery" are basic for the block of disciplines providing the natural sciences (block of NS) and vocational and practical training (PT).

1.2. The main tasks of studying the discipline "Modern aspects of clinical anatomy in thoracic surgery" are as follows:

a) are based on the students study of morphological disciplines - human anatomy; histology, cytology and embryology; physiology, pathomorphology; pathophysiology; propaedeutics of internal medicine, propaedeutics of pediatrics, radiology and integrate with these disciplines;

b) creates the foundation for the students study of abdominal surgery, traumatology, anesthesiology and intensive care and other educational disciplines where surgical methods of treatment are used, which involves the integration of teaching with these disciplines and formation of skills to apply knowledge in the process of further education and professional activity;

c) provides the opportunity to obtain practical skills and to develop professional skills for the provision of medical care at certain pathological conditions and during care of surgical patients.

As a result of discipline study student must:

- know the structure, topography and syntopy of the human body parts;
- demonstrate possession of the technique of basic surgical interventions performance on experimental animals and human corpses.

1.3. Competence and learning outcomes, the formation of which is facilitated by discipline (the relationship with the normative content of higher education graduates training, formulated in terms of learning outcomes of Higher Education Standard).

In accordance with the requirements of Higher Education Standard, discipline ensures students' acquisition of **competences**:

- general: ability of abstract thinking, analysis and synthesis; the ability to learn and to master modern knowledge; ability to apply knowledge in practical situations; knowledge and understanding of the subject field and understanding of professional activity; ability to adapt and act in a new situation; the ability to make informed decisions; ability to work in a team; the ability for interpersonal interaction; the ability to communicate in a foreign language; the ability to use information and communication technologies; the ability to search, process and analyze information from various sources; determination and persistence in relation to the assigned tasks and assumed responsibilities; awareness of equal opportunities and gender issues; the ability to realize one's rights and responsibilities as a member of society, to realize the values of a civil (free democratic) society and the need for its sustainable development, the rule of law, the rights and freedoms of a person and a citizen in Ukraine; the ability to preserve and multiply moral, cultural, scientific values and achievements of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and technologies, to use various types and forms of motor activity for active recreation and leading a healthy lifestyle. Basics for students to study of clinical anatomy and operative surgery, histology, normal physiology, propaedeutics of clinical disciplines.
- special (professional, subject): ability to collect medical information about the patient and analyze clinical data; the ability to determine the necessary list of laboratory and instrumental studies and evaluate their results; the ability to determine the principles and nature of treatment and prevention of diseases; the ability to diagnose emergency conditions; the ability to determine tactics and provide emergency medical assistance; Ability to perform medical manipulations; the ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethical responsibility; to clearly and unambiguously convey one's own knowledge, conclusions and

arguments on health care problems and related issues to specialists and nonspecialists, in particular to persons who are studying; the ability to develop and implement scientific and applied projects in the field of health care; compliance with ethical principles when working with patients and laboratory animals; observe professional and academic integrity, bear responsibility for the reliability of the obtained scientific results.

Formation of skills to apply knowledge of clinical anatomy and operative surgery in the process of further study of all clinical disciplines and in future professional activities.

Detail of competencies according to the descriptors of the NRC in the form of "Matrix of competencies".

№	Compe-tencies	Knowledge	Skills	Communi-	Autonomy
				cation	and
					responsibility
1.	Professional:	- essence, the	- to confirm situational		- mastering of
	1. Ability to collect	fundamental	tasks from the main		practical skills in
	medical information	properties of the	parts of discipline;		use of surgical
	about the patient and	layered structure	- to determine the		instruments and
	analyze clinical data.	of the human	layered structure		suturing material;
	2. Ability to determine	body;	features of the thoracic		- technique of
	the necessary list of	-features of	wall;		operations on the
	laboratory and	anatomy of	-to be able to perform		lungs;
	instrumental studies and	thoracic organs;	debridement at thoracic		-to define the
	evaluate their results.	-features of	wounds;		projective lines on
	6. Ability to determine	topography of	-to be able to		the chest;
	the principles and nature	the chest;	demonstrate borders of		-technique of the
	of treatment and	-features of	the lung on phantom;		operations on
	prevention of diseases.	thoracic wall	-to differentiate		diaphragm;
	7. Ability to diagnose	structure;	pulmonary root (hilum		-technique of the
	emergency conditions.	- concept of	of the lung);		operations on
	8. Ability to determine	norm, variants,	-to demonstrate thoracic		breast;
	tactics and provide	anomalies of the	wall structure on the dry		-technique of the
	emergency medical care.	chest;	preparations;		operations at
	10. Ability to perform	-methods of	-to define structure and		pneumothorax;
	medical manipulations.	investigation at	function of thoracic		-technique of the
	11. Ability to solve	diseases of	organs;		operations on
	medical problems in new	pleura and	-to define the location of		nerves and
	or unfamiliar	lungs;	cava veins formation;		vessels;
	environments in the	-operative	-to be able to define		-technique of the
	presence of incomplete	approaches to	place of pleural		operations on the
	or limited information,	the thoracic	puncture;		rib;
	taking into account	organs;	-to be able to		
	aspects of social and	-operations on	demonstrate vascular		
	ethical responsibility.	thoracic wall;	sutures on animal		
	21. Clearly and	-rib resection;	material;		
	unambiguously convey	-lung resection;	-to demonstrate bronchi		
	one's own knowledge,	-topography of	suturing on animal		
	conclusions and	the breast;	material;		
	arguments on health care	operative	-to demonstrate typical		
	problems and related	procedures on	places of diaphragmatic		
	issues to specialists and	the breast.	hernia protrusion on		

non-specialists, in		phantom;	
particular to stude	nts.	-to define places of	
23. Ability to deve	elop	lymphatic duct	
and implement sci	entific	connection at the venous	
and applied project	ts in	angles;	
the field of health	care.	-to define structure and	
24. Compliance w	ith	function of the breast;	
ethical principles	when	-to define structure and	
working with patie	ents	function of oesophagus;	
and laboratory ani	mals.	-to demonstrate place of	
25. Observance of		internal mammarial	
professional and		artery ligature on	
academic integrity	, bear	phantom;	
responsibility for t	he	-to differentiate	
reliability of the o	btained	topography of azygos	
scientific results.		and hemiazygos veins	
		brunches;	
		-to analyse features of	
		topography of	
		mediastinum organs;	

Learning outcomes: the knowledge that students receive from the academic discipline "Modern aspects of clinical anatomy in thoracic surgery", are basic for the block of disciplines providing the natural sciences (block of psychology) and the professional-practical (block of PP) preparation.

Integrative final programmatic learning outcomes, the formation of which is facilitated by the discipline: the ability to analyze information about the layered structure of the human body, its systems, organs and tissues; to demonstrate possession of moral and ethical principles of the attitude to living person and his body as an object of anatomical and clinical research; variants of organs variability, congenital defects; to interpret gender, age and individual features of the human body structure; to explain the patterns of development and features of the human organs and systems structure at macro- and microscopic levels; to predict the interdependence and unity of structures and functions of human organs of their variability under the influence of environmental factors; to determine the topographic-anatomical relations between human organs and systems; determine the influence of social conditions and labor on the development and structure of the human body.

Results of study for the discipline: histology, normal physiology, surgery, therapy, radiology, neurology, dentistry, etc.

2. Information volume of educational discipline

2 ECTS credits are assigned to the study of the academic discipline 60 hours: 0 hours of them - lectures, 26 hours - practical classes, 34 hours. - individual work.

The main types of educational classes in the discipline are practical classes and independent work of students on the subject of the educational discipline program.

Торіс		(S	
	Lectures	Practical lessons (workshop	OCW
1. Life safety during wartime, emergency medical care, psychological care, anticrisis management. Anatomy-physiological features of thoracic cavity structure.	-	2	
2. The main examination methods for diseases of the pleura and lungs: roentgenoscopy, radiography, computer tomography, magnetic resonance tomography.	-	2	5
3. Surgical approaches: rib resection, sternotomy, thoracotomy.	-	2	2
4. Traumatic injuries of pleura and lungs (foreign bodies).	-	2	4
5. Pneumothorax: open, closed, valvular. Diagnosis and treatment.	-	2	4
6. Operations on the pleural cavity and lungs. Lobectomy, bilobectomy, segmentectomy, pulmonectomy (right, left). Indications, technique of performance.	-	2	
7. Topography of the mediastinum. Operative interventions for penetrating wounds of the mediastinum.	-	2	
8. Congenital defects and acquired lesions of the esophagus. Reconstruction of the esophagus. Indications, diagnosis, methods of operative treatment.	-	2	5
9. Operative procedures on thymus. Transthoracic goiter. Indications, diagnosis and operative treatment.	-	2	4
10. Topography of the breast. Anatomical and physiological features of breast structure, features of lymphatic outflow.	-	2	
11. Operations on the breast: indications and methods of operative treatment. Mastectomy and sectoral resection of the breast.	-	2	5
12. Operative treatment of purulent mastitis.	-	2	
13. Anomalies of the development of the thoracic cavity. Operative interventions for defects of the chest.	-	2	5

3. Structure of educational discipline.

In all	 26	34
In all hours at discipline	60	

5. Tematic plan of practical classes

	Торіс	Hrs.
1.	Life safety during wartime, emergency medical care,	2
	psychological care, anticrisis management. Anatomy-physiological	
	features of thoracic cavity structure.	
2.	The main examination methods for diseases of the pleura and	2
	lungs: roentgenoscopy, radiography, computer tomography,	
	magnetic resonance tomography.	
3.	Surgical approaches: rib resection, sternotomy, thoracotomy.	2
4.	Traumatic injuries of pleura and lungs (foreign bodies).	2
5.	Pneumothorax: open, closed, valvular. Diagnosis and treatment.	2
6.	Operations on the pleural cavity and lungs. Lobectomy,	2
	bilobectomy, segmentectomy, pulmonectomy (right, left).	
	Indications, technique of performance.	
7.	Topography of the mediastinum. Operative interventions for	2
	penetrating wounds of the mediastinum.	
8.	Congenital defects and acquired lesions of the esophagus.	2
	Reconstruction of the esophagus. Indications, diagnosis, methods	
	of operative treatment.	
9.	Operative procedures on thymus. Transthoracic goiter. Indications,	2
	diagnosis and operative treatment.	
10.	Topography of the breast. Anatomical and physiological features	2
	of breast structure, features of lymphatic outflow.	
11.	Operations on the breast: indications and methods of operative	2
	treatment. Mastectomy and sectoral resection of the breast.	
12.	Operative treatment of purulent mastitis.	2
13.	Anomalies of the development of the thoracic cavity. Operative	2
	interventions for defects of the chest.	
	In all	26

6. Thematic plan of out of class work

N₂	Торіс	Hrs.	Type of control
1.	Thoracoscopic approaches to the organs of	5	Continuous control at
	the chest.		practical classes
2.	Pleural puncture. Indications, method of	2	_''_
	performance.		
3.	Operations on the pleura. Indications,	4	_''_
	performance technique.		
4.	Intercostal drainage of pleural space by	4	_"_

	Bulau.		
5.	Esophageal strictures. Bleeding from	5	-"-
	varicose veins of the esophagus. Methods of		
	mini invasive treatment.		
6.	Topography and age-related anatomy of the	4	-"-
	thymus.		
7.	Reconstructive and plastic operations on the	5	-"-
	breast.		
8.	Operations on the diaphragm.	5	-"-
	Diaphragmatic hernias.		
	In all	34	

Individual lessons are not planed.

7. Tasks for independent work

Independent work of students is carried out in the form of preparation for practical classes (preparation of theoretical questions, mastery of skills according to the subject of the class, etc.).

8. Educational methods

At practical classes for the effective assimilation of the material different educational methods are used, namely:

- -Visual method (teacher's demonstration of organocomplexes, dry and wet preparations, use of atlases, illustrations of textbooks, tables, demonstration of separate surgical techniques principles on animal material, and others);
- -Practical method (student's work with organocomplexes, dry and wet preparations, solving tests, situational tasks, working out of separate surgical techniques on animal material);
- The verbal method (teacher's explanation of the unclear questions from the previous topic of the class or lecture, teacher's explanation of the topic of the current practical lesson, lecture);
- Work with a book (writing notes by students during self-study and performing out of class work);
- Video method (use of thematic video films at lecture course, multimedia presentations of lectures).

9. Methods of control

Types of control (current and final) Final control form according to the curriculum (credit)

10. Current control

Current control is carried out on the basis of control of theoretical knowledge, skills and abilities.

Forms of current control:

- 1. Oral questioning (frontal, individual, combined).
- 2. Practical examination of the formed professional skills.
- 3. Test control (open and closed test tasks).

Current control is carried out during the lessons and is aimed at verifying students' learning of the material. The form of ongoing control during the lessons is determined by the working curriculum of the discipline.

Assessment of current educational activities. When assessing the mastering of each topic for the current educational activity, the student is awarded grades on a 4-point (traditional) scale, taking into account the approved evaluation criteria. At the same time, all types of work provided by the educational program are taken into account. The student must receive a grade in each topic. Forms of assessment of current educational activities are standardized and include control of theoretical and practical training.

The department uses following evaluation criteria according to the traditional 4-point scale:

Excellent (''5'') – The student correctly answered 90-100% of the tests in the format A. Correctly, clearly, logically and fully answers all standardized questions of the current topic, knows well the material of the previous topics (the initial level of knowledge), answers the questions of the lecture course and the questions of out of class work. Properly demonstrates the preparations (knowledge of practical skills), correctly uses the Latin terms. Makes a generalization of the material, complements his answer by knowing additional literature. He fulfilled all the tasks, provided by the methodological recommendations during the independent work of the student. He wrote an abstract on the proposed topic or independently made an anatomical preparation (individual work).

<u>Good ("4")</u> - Student correctly answered 70-90% of the tests in the format A. Correctly, sometimes with the help of explanatory questions, answers standardized questions of the current topic, knows the material of previous topics (initial level of knowledge), answers the questions of the lecture course and the question of out of class work. Properly demonstrates the preparations (knowledge of practical skills). The student correctly uses the Latin terms. He fulfilled all the tasks provided for by the methodological recommendations at the independent work of the student.

<u>Satisfactory ("3")</u> - The student correctly answered 50-70% of the A format tests. Incompletely, with the help of explanatory questions, answers standardized issues of the current topic, questions on the material of previous topics (initial level of knowledge), inaccurately and incompletely answers the questions of the lecture course and the question of out of class work. Cannot independently build a clear, logical answer. During the answer and demonstration of the preparations (knowledge of practical skills) the student makes minor mistakes. The student uses Latin terms with errors, or does not fully understand the Latin terms of the topic of the current class and previous occupations. Fulfilled not entirely the tasks provided by methodological recommendations at independent work of the student.

<u>Unsatisfactory" ("2")</u> - The student answered less than 50% of the A format tests. Does not know the material of the current topic. Or answers the questions posed to the current topic not enough, incompletely, cannot construct a logical answer, does not answer additional questions, does not understand the content of the material, does not know the question of the material of the previous topics (the initial level of knowledge), does not answer the questions of the lecture course and the question of independent work. During the response and demonstration of the drug (knowledge of practical skills) the student makes significant, gross mistakes. The student does not know the Latin terms from the topic of the current occupation and previous occupations, or uses Latin terms with errors. Did not fulfill the tasks provided by methodological recommendations during independent work of the student.

11. The form of final control of study success

For the discipline, the form of final control is the credit.

The maximum amount of points that can be collected by a student during a module is 200 points.

The minimum number of points that can be collected by student during a module, calculated by multiplying the number of points corresponding to the evaluation "3", the number of topics in the module is 120 points.

Calculation of points is based on student assessments obtained by traditional scale in the study subjects during the semester, by calculating the arithmetic mean (CA), rounded to two decimal places. The resulting value is converted into points by multi-scale as follows:

$$X = \frac{CAx200}{5}$$

For convenience, a table converted 200-point scale.

	courses that are ended with the credit										
4-	200-	4-	200-		4-	200-		4-	200-		
pointed	pointed	pointed	pointed		pointed	pointed		pointed	pointed		
scale	scale	scale	scale		scale	scale		scale	scale		
5	200	4.45	178		3.92	157		3.37	135		
4.97	199	4.42	177		3.89	156		3.35	134		
4.95	198	4.4	176		3.87	155		3.32	133		
4.92	197	4.37	175		3.84	154		3.3	132		
4.9	196	4.35	174		3.82	153		3.27	131		
4.87	195	4.32	173		3.79	152		3.25	130		
4.85	194	4.3	172		3.77	151		3.22	129		
4.82	193	4.27	171		3.74	150		3.2	128		
4.8	192	4.24	170		3.72	149		3.17	127		

Recalculation of the average score for current activity in multimark scale for courses that are ended with the credit

4.77	191	4.22	169]	3.7	148		3.15	126
4.75	190	4.19	168		3.67	147		3.12	125
4.72	189	4.17	167		3.65	146		3.1	123
4.7	188	4.14	166		3.62	145		3.07	122
4.67	187	4.12	165		3.57	143		3.02	121
4.65	186	4.09	164		3.55	142		3	120
4.62	185	4.07	163		3.52	141		Less	Not
4.6	184	4.04	162		3.5	140		then 3	enough
4.57	183	4.02	161		3.47	139			
4.52	181	3.99	160		3.45	138			
4.5	180	3.97	159]	3.42	137			
4.47	179	3.94	158]	3.4	136]		

Out of class work of the students is assessed during the current control of theme on the proper lesson. The acquisition of the topics which are considered only on independent work is controlled at the final control.

Methodical providing

Methodical recommendations for students and teachers, workbooks, tables, models, schemes, educational films, surgical instruments, suture material, dry preparations, animal corpses.

12.Recommended literature

- 1. К.І.Кульчицький, М.П.Ковальський, А.П.Дітківський, М.С.Скрипніков та ін. Оперативна хірургія і топографічна анатомія. Київ, «Вища школа», 1994.-464 с.
- К.И.Кульчицкий, И.И.Бобрик, А.П.Дитковский, С.А.Солорева и др. Оперативная хирургия и топографическая анатомия./учебник для медвузов/.
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- 4. С.И.Елизаровский, Р.Н.Калашников. Оперативная хирургия и топографическая анатомия. М., 1967.
- 5. К.И.Кульчицкий, И.И.Бобрик (ред.). Оперативная хирургия и топографическая анатомия. Киев, Высшая школа, 1989.
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- 12. Chassin J.L. Operative Strategy in General Surgery. New York etc., Springer. 1994.
- 13. Т.В.Золотарева, Г.Н.Топоров. Хирургическая анатомия головы. Москва,

Медицина, 1968.

- 14. Ю.А.Золотко. Атлас топографической анатомии человека. М., 1978.
- 15. Р.Й.Вайда. Основи клінічної анатомії та оперативної хірургії (лекції).-Тернопіль.- «Укрмедкнига», 2001.
- 16. М.П.Бурих. Топографічний підхід до вивчення тіла людини. Харків, 2005. 30 с.
- М.П.Ковальський, О.Б.Кобзар. Навчально-методичні матеріали для підготовки до підсумкового контролю знань і вмінь на кафедрі оперативної хірургії і топографічної анатомії (для студентів медичного факультету). - К., Стилос, 1999-2004. - Видання 1-5. - 79 с.
- А.Г.Попов, В.К.Красницкий, ВИ.Горовенко. Учебное пособие «Тестовые задачи» по курсу оперативной хирурги и топографической анатомии. Одесса, 2004. - 120 с.
- 19. В.В.Кованов, Т.И.Аникина, И.А.сычеников. Курс лекций по оперативной хирургии и топографической анатомии. М., 1972.
- 20. К.И.Кульчицкий. Лекции по оперативной хирургии и топографической анатомии. Киев-Полтава, 199
 - 13.**Information resources:** the page of the department on the university's website

14.Appendices:

List 1

(syndromes and symptoms)

- 7. pain in the chest
- 12. vomiting
- 13. broncho-obstructive syndrome
- 15. effusion in the pleural cavity
- 31. asphyxia
- 39. external bleeding
- 40. internal bleeding
- 51. pneumothorax tensive (closed)
- 52. pneumothorax non tensive (open)
- 53. valvular pneumothorax

List 2

(diseases)

V) Diseases of respiratory organs and mediastinum:

- 60. asphyxia
- 65. congenital malformations of respiratory organs
- 72. lung and mediastinal neoplasms
- 73. pleuritis
- 76. pneumothorax
- 78. foreign body in the respiratory tract
- 79. trauma of the chest (superficial, open)

VI) Diseases of digestive organs:

83. congenital malformations of digestive organs

90. benign diseases of the esophagus

94. neoplasms of the esophagus, stomach, colon, liver and pancreas

97. perforation of a hollow organ

IX) Diseases of the musculoskeletal system and connective tissue:

X) Diseases of the endocrine system, nutritional disorders and metabolic disorders:

158. nodular goiter, tumors of the thyroid gland

XII) Diseases of the female reproductive system

246. mastitis

247. neoplasm of the mammary gland