National Training Requirements

LITHUANIA

Specialty

Clinical Pharmacology

(Klinikinė Farmakologija)

Language:	English
Deposited:	03.07.2024
Prepared by (name):	R. Mačiulaitis
On behalf of (organisation):	UEMS Section of Pharmacology
NMA responsible for training:	Lithuanian Ministry of Health; Lithuanian Medical Association
This document based on:	Klinikine-farmakologija-PROGRAMA.pdf
English translation:	R. Mačiulaitis

Note: This is not a legally binding document. Any current official regulations must be obtained from the responsible National Medical Association or other organisation in charge of the training of medical specialists.

APPROVED
Lithuanian University of Health Sciences
Senate Resolution No. 166-06 of January 26, 2023

DESCRIPTION OF THE CLINICAL PHARMACOLOGY RESIDENCY STUDY PROGRAM

Name of residency study program	Program state code
Clinical Pharmacology	**7330GX018**

Institution of higher education, department	Language of execution of the programme
Lithuanian University of Health Sciences, Academy of Medicine, Institute of Physiology and Pharmacology, A. Mickevičiaus str. 9, LT-44307 Kaunas	Lithuanian language

Type of study	Cycle of studies	Qualification level according to Lithuanian Qualification Structure (LTQS)
University studies	Professional Residency Studies	Level VII

Form and duration of study in years	Scope of the program in credits	Total resident's workload in hours	Contact hours	Self-employment hours
Permanent, 5 years	330	8826	7726	1100

Field of study	The main direction (branch) of the study program	Side direction (branch) of the study programme (if any)
Medical and Health Sciences	Medicine	-

Professional qualifications awarded
Medical Clinical Pharmacologist

Head of the study program	Manager's contact information
Prof. Romaldas Mačiulaitis	Email: romaldas.maciulaitis@lsmuni.lt

Accrediting institution	Accredited until
Centre for Quality Assessment in Higher Education	

The aim of the residency study program
The main goal of the gastroenterology residency program is to prepare a fully educated, honest, proactive, independent, ethically responsible, creative specialist interested in scientific innovations, fostering democracy, able to solve problems and work in a team. To prepare a professional specialist with the qualification of a medical clinical pharmacologist, the ability to apply the acquired knowledge, skills and abilities in practical work.

Entrusted professional activities of the residency study program
1. Be able to assess the rationality of drug treatment and adjust the treatment plan. 2. Be able to carry out therapeutic monitoring of drug concentrations. 3. Be able to diagnose and treat adverse drug reactions. 4. Be able to plan and interpret a pharmacogenetic investigation, to draw up a treatment plan based on it. 5. Be able to diagnose or predict clinically significant drug interactions and manage them. 6. Be able to plan, conduct clinical trials of all phases, interpret their results, and perform benefit and risk assessment of medicinal products. 7. Be able to carry out activities that promote the rational prescription and use of medicines. 8. Be able to diagnose and treat diseases of internal organs

Residency degree program profile		
Content of residency studies: cycle groups	**The nature of the residency study program**	**Distinctive features of the residency study program**

The program consists of mandatory and elective cycles, which include theory, practical work, and independent work. The mandatory cycles are oriented towards deepening the knowledge and skills of a medical clinical pharmacologist in the field of internal medicine and primary resuscitation, clinical diagnosis of adverse drug reactions, including inefficiency, pharmacological and surgical prophylaxis knowledge, skills, and acquisition. Separate mandatory cycles are formed towards deepening the knowledge pharmacokinetics, pharmacodynamics, pharmacoeconomics and pharmacogenomics to apply it for rational and personalized patient care and for research and development of medicines. Separate mandatory cycles are formed for diagnosis and management of pharmacotherapeutic situations (problems) in daily clinical practice of internal diseases, surgery, neurology, psychiatry, paediatrics, obstetrics and gynaecology, geriatrics, family medicine, dermatology, and infectious diseases. In addition, residents are studying also principles of laboratory medicine, including microbiology as well as radiology. Elective cycles are intended to deepen knowledge in a narrow field of clinical pharmacology.	This is a practical program aimed at developing practical skills and improving the ability to conduct scientific research and providing professional qualifications for a gastroenterologist.	The program is developed in accordance with the laws of the Republic of Lithuania, as well as directives of the European Parliament and Council. The program is based on the integration of theoretical studies and practical work from the first year of studies. Practical skills are acquired under the guidance of resident supervisors approved by University. Theoretical course of the programme is delivered by University's academic staff. The main residency base for Clinical Pharmacology Residency program is the Hospital of Lithuanian University of Health Sciences Hospital "Kauno Klinikos", which has required advanced facilities and technologies for the diagnosis and treatment of internal and surgical diseases. Other external residency bases for implementation of practical part of the study program may be chosen in accordance with the Regulations of Residency Studies at the University. Research skills are developed by conducting scientific work in the Institute of Physiology and Pharmacology or other University's departments. There is also an opportunity to complete a part of the resident training in a chosen hospital abroad in accordance with the Regulations of Residency Studies at the University.

Requirements for applicants	Opportunities for recognition of prior learning
To be accepted into a residency program, a candidate must hold a master's degree in medicine and be a qualified medical doctor. Acceptance is based on a joint competition, with the structure of the competitive score outlined in the conditions for admission to the residency programs of the LSMU. The elements of the admission score include the average grade of all subjects studied during integral studies, the grade of the final exam, the grade of clinical medical practice, the grade of the student's scientific activity, and the grade of the motivation interview. The motivation interview is conducted according to a predetermined schedule and is evaluated by a commission consisting of the academic staff of the Institute of Physiology and Pharmacology and representatives of residents. The evaluation criteria include scientific activity, clinical volunteering, and personal qualities. Candidates must submit a cover letter to the commission one day before the scheduled motivation interview. The competition is public and takes place in two stages: the main stage and an additional stage for any remaining vacancies.	Results of previous studies are credited on an individual basis, considering the developed competencies and the goals of the program corresponding to the residency study program "Clinical Pharmacology", in accordance with the procedure established by the Senate of LSMU.

Opportunities for further studies
Degree-awarding third-cycle studies in doctoral studies

Opportunities for professional activity
A medical clinical pharmacologist can work in the public and private healthcare institutions licensed to provide clinical pharmacology services. The license to practice as a medical clinical pharmacologist is granted by the State Accreditation Agency for Healthcare Activities under the Ministry of Health of the Republic of Lithuania, upon submission of a diploma of completion of a medical study program, an internship certificate, and a residency completion certificate. Additionally, a medical clinical pharmacologist can work in scientific and pedagogical activities in higher education institutions. The residency completion certificate and professional qualification obtained are **recognized in the European Union countries**. All graduates of the Medical Clinical Pharmacologist residency program have the competencies required to be employed.

Study methods	Assessment methods
Various teaching and learning methods are applied: lectures, seminars, consultations, group discussions with resident doctors, work with simulators, filling out a daily activity log, preparing and presenting presentations at morning doctor conferences, watching educational films, creating and implementing personal development plans.	Participation in lectures, seminars, consultations, and group discussions is recorded in a separate log. It is required to attend and complete not less than 75% of all theoretical sessions according to the annual schedule of lectures, seminars, and group discussions. Exceptions for missed sessions may be allowed for previous-year residents or on an individual schedule. Evaluations take place at the end of each cycle. The assessment is in written form, using a test format that includes open and closed type questions/tasks and clinical situations. The grading is done on a ten-point grading scale.
Skills and abilities are acquired by studying and analysing drug pharmacokinetic, pharmacodynamic, pharmacoeconomic, pharmacogenomic, and therapeutic research and development results from exploratory and confirmatory stages; by studying and treating patients in the designated inpatient and outpatient departments during the cycle, participating in daily and weekly clinic, department, and sector head visits and patient discussions, treating patients under the supervision of the resident's supervisor, and on-call duties in the departments as needed by the residency base under the supervision of the residency supervisor or licensed physician.	Evaluation of analyses of drug pharmacokinetic, pharmacodynamic, pharmacoeconomic, pharmacogenomic, and therapeutic research and development results from exploratory and confirmatory stages is regularly reviewed by the residency supervisor by checking the daily activity log and completion of tasks. Evaluation of continuous clinical work, proper performance and/or interpretation of diagnostic procedures is regularly reviewed by the residency supervisor by checking the daily activity log and completion of tasks. Evaluation of analysis and presentation of individual clinical cases during **weekly visits**, which is regularly marked in the daily activity log and confirmed by the residency supervisor. **Feedback from residency staff** (doctors and junior medical personnel, other staff) on the resident doctor's performance while working independently is collected at the end of each cycle. Feedback is recorded as attachments to the daily activity log. Practical skills and abilities acquired during the cycle are evaluated on a ten-point grading system and recorded in the daily activity log and the Resident's Record Book. Preparation and presentation of literature reviews and clinical case analyses with literature review during morning doctor conferences according to an individual schedule. Presentations are recorded in the daily activity log and confirmed by the resident supervisor once every six months.

	The resident doctor can propose the topic of the scientific research or it can be suggested by the residency supervisor. The preliminary topic, research object, and methods for scientific research are discussed and approved during the Profile Clinic meeting. The results of the scientific research are presented at the clinic conference no later than a month before the final exam. The residency study program is completed with practical and theoretical exams. The practical exam takes place at the patient's bedside. The theoretical exam is a written exam consisting of answering five questions.

Ordinary		**Aspirations of the residency study program**	
1.	Professional qualities	1.1	To be honest, honourable with patients with pharmacotherapeutic issues (problems), abide by medical ethics norms, comply with the requirements of good medical practice, be critical of others and oneself, have empathy, be creative and proactive.
		1.2	To be fair and honourable in protecting the public interest in the rational use of medicines.
2.	Professional activity	2.1	Be able to assess the limits of one's competences in pharmacology and related specialties related to a pharmacotherapeutic problem during patient treatment and, if necessary, seek help, act in emergency situations and adapt to them, act independently, solve problems and make decisions, communicate and work in a team together with other areas specialists, be able to organize and plan, including working hours.
3.	Expert activity of the doctor	3.1	Being able to analyse **symptoms** and synthesize syndromes, to continuously improve through lifelong learning, being able to apply theoretical knowledge in practice, to transfer one's knowledge and abilities to younger colleagues, to plan and conduct scientific research.
		3.2	Being able to analyse the signs of **rational** medicines use and diagnostic, preventive and treatment services of drug-induced injuries, to synthesize desirable and undesirable syndromes caused by medicines, to continuously improve in pharmacology through lifelong learning, being able to apply theoretical knowledge in practice, to transfer one's knowledge and abilities to younger colleagues, to plan and to carry out scientific research.
		3.3	To get to know the principles of how to recognize the possibilities of **exhausted** standard internal medicine treatment of diseases and reasonedly to suggest patients to participate in ongoing international clinical trials.
		3.4	Get to know the principles of how to analyse the **public factors** that lead to the rational use of medicines - the evaluation criteria for authorization, use, reimbursement of medicines and marketing rights based on the principles of evidence-based medicine.
		3.5	Be able to plan, conduct clinical trials of all phases, interpret their results, and perform benefit and risk assessment of medicinal products.

4.	Doctor in the international context	4.1	Recognize diversity and cultural variety, be able to work in an international environment, speak at least one foreign language, be interested in life and scientific achievements beyond the boundaries of medical science, participate in public activities.
Subject competencies		**Aspirations of the residency study program**	
5.	Patient pharmacological care and counselling	5.1	Ability to perform a comprehensive somatic patient evaluation, identify and interpret symptoms, collect relevant medical history and interpret it, conduct a preliminary and targeted patient examination, and formulate a syndromological diagnosis.
		5.2	Being able to carry out **activities that promote** the rational prescription and use of medicines
		5.3	Ability to explain to the patient (and their relatives) the purpose and meaning of the actions performed with them, to explain the findings to the patient and discuss further actions, to reassure and motivate the patient.
6.	Drawing up a patient's examination and treatment plan	6.1	Being able to **diagnose and treat diseases of internal organs**: recognize the clinical condition and assess its severity, establish a plan of necessary diagnostic tests, interpret the results of tests, perform primary (complaints, anamnesis, examination) and secondary (interpreting test results and planning, performing and interpreting additional research results) differential diagnosis of the causes of the patient's symptoms; create a treatment plan suitable for an individual patient and discuss it with the patient and his relatives, be able to assess possible drug interactions and possible adverse effects, as well as the effectiveness of the prescribed treatment
		6.2	Recognize **clinical disorders caused by medicines** used by a sick patient, including **ineffectiveness**, and assess their level of severity and intensity, draw up a plan for necessary diagnostic tests, be able to interpret test results, perform primary (by evaluating complaints, anamnesis, pharmacological examination) and secondary (interpreting test results and when planning, performing and interpreting the results of additional tests) differential diagnosis of the causes of the patient's symptoms; create a treatment plan suitable for an individual patient and discuss it with the patient and his relatives, be able to evaluate possible drug interactions and possible adverse effects, as well as the effectiveness of the prescribed treatment.
		6.3	To be able to communicate with the patient and their relatives in critical conditions; to be able to gain trust and informed consent, to communicate in writing (filling out medical documents).
7.	Providing emergency medical assistance	7.1	To be able to recognize somatic conditions requiring emergency medical assistance, provide first aid, provide initial resuscitation assistance according to current recommendations, and be able to treat emergency conditions requiring urgent medical attention.
8.	Performing diagnostic procedures, evaluating results, and interpreting them	8.1	Being able to assess the rationality of medicines use treatment and adjust the treatment plan.
		8.2	Be able to carry out therapeutic drug monitoring of drug concentrations

		8.3	Being able to diagnose and treat adverse drug reactions
		8.4	Being able to plan and interpret a pharmacogenetic study, to draw up a treatment plan based on it.
		8.5	Being able to diagnose or predict clinically significant drug interactions and manage them.
		8.6	Evaluation of the results of immunological and microbiological tests in the case of a specific infectious disease.
9.	Participation in maintaining health, promoting and encouraging healthy lifestyle	9.1	To be able to assess the risk to the patient's health and apply appropriate and rational measures to reduce this risk, to apply infection control measures, to assess the risk of professional actions to one's own health and to take measures to avoid this risk.
		9.2	To participate in health promotion programs at the population and individual levels.
		9.3	Apply infection control measures.
		9.4	Assess the risk of professional actions to one's own health and take measures to avoid this risk.