History of the Department of Pharmacology until 1985

The history of the Department of Pharmacology in the years 1946-1985 was summarised by Professor Lenfeld in a chapter he wrote for a compendium covering 40 years of the Faculty of Medicine's existence at Palacký University in Olomouc, published by the university itself in 1986. It was decided to publish the text here without modifications including, from today's point of view, the quite absurd ideological ballast, which was absolutely necessary at that time and was, after all, a decent document for its day. It must be noted, however, that compared to other related texts from the period, it is referenced in the present material at an absolute minimum.

Professor Lenfeld led the department as the Deputy Head de facto from 1970 through to 1989, when he was unable to take the official title of 'Head' for political, now well-known reasons. Over time, the department formally took the lead over the heads of various other departments in related fields, as detailed in the text below. To their credit, the heads did not abuse this unpleasant situation and it was further thanks to them that no one doubted for a moment who the rightful head of the pharmacological department at Olomouc Medical Faculty was.

The original text was published without visual documentation; the photographs here come from the Department Chronicle, which is maintained to this day thanks to our careful colleagues.

Karel Urbánek

The Department of Pharmacology in the Faculty of Medicine at the University of Palacký was founded 40 years ago under the Restoration of Higher Education Act in Olomouc as a completely new workplace. In March 1946, leadership of the department was taken by the young associate professor Hedvika Zemánková-Kunzová, M.D., originally a lecturer in the Department of Pharmacology in the Medical Faculty of Masaryk University, Brno.

The Department of Pharmacology was then located in a building on Fierlingerova Street and the school year 1946-7 started with minimal occupation (one assistant, one demonstrator and one attendant) and in provisional premises; over the next three years, more optimal working conditions would be created for the department. Dr Zemánková, M.D. was appointed Professor in February 1948 and subsequently the number of assistants was increased to two whilst the numbers of other staff were also increased and the department was furnished with the necessary operating equipment.

prof. Zemánková took up the building of the department with extraordinary energy and adopted a highly modern approach to the organisation of teaching and research. In

The original building of the FM PU in Olomouc on Fierlingerova Street

the appointment of co-workers, she was able to obtain not only lecturers with completed university degrees but also students. However, at the beginning of 1953, prof. Zemánková became seriously ill. Because the institute employed only student lecturers at that time, in the summer semester of 1953, the Ministry of Education entrusted lectures on pharmacology to Jiří Lenfeld, M.D., Senior Lecturer in the Department of Pharmacology in the Faculty of Medicine at Masaryk University. Lenfeld travelled from Brno to Olomouc twice per week, and with the effective assistance of his lecturers, he devoted himself principally to educational activities.

In June 1953, prof. Zemánková, M.D. succumbed to her illness and in October of the same year, under the bankruptcy procedure, Lenfeld, M.D. was commissioned to lead the department, later becoming Associate Professor and then, finally, Professor. Initially, his work reflected the organisational difficulties experienced with the project on the building of the new theoretical departments, to which the Department of Pharmacology eventually relocated in 1960 and in which it found a very favourable working environment.

Prior to 1959, the Department of Pharmacology was incorporated into a joint department with the Department of Pathological Physiology. On 1 September 1959, a separate Department of Pharmacology was established and prof. Lenfeld, then an Associate Professor, was entrusted with its leadership. Nevertheless, in 1970 he was dismissed from his position to be superseded by prof. F. Šantavý, M.D., D.Sc. who held the position from 1970 to 1974 with doc. S. Loyka, M.D., D.Sc. taking over between 1974 and 1984. Since 1984, prof. A. Sklenovský, M.D. has been Head of the Department of Pharmacology with prof. Lenfeld acting as Deputy Head.

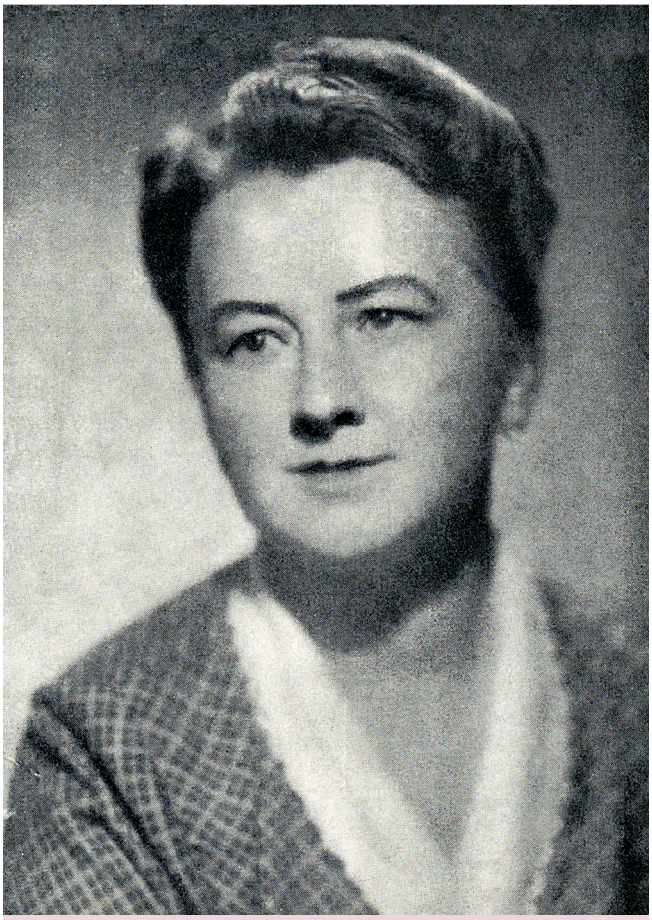
The Professional profile of the Department

Pharmacology was developed in medical faculties in the post-war years as an experimental field with the aim of providing medical students with theoretical knowledge of drug effects and practical knowledge of the basics of formulae. From the perspective of inclusion in the curriculum, pharmacology is considered a pre-clinical discipline, which in particular follows biochemistry, genetics, normal and pathological physiology, pathology and microbiology, and which the clinical disciplines use as a basis for teaching pharmacotherapy in connection with a particular disease. On the conceptual side, the teaching of pharmacology emphasises the mechanisms of drug action not only on organs, but also at the cellular and molecular levels, on pharmacokinetics, on drug toxicology and on the general patterns of the relationships of active substances in living matter, taking into account clinical situations. Individual pharmacological workplaces may differ in the degree to which they succeed in rendering the theoretical basis of the discipline relevant to a doctor after graduation. In addition to experimental pharmacology, clinical pharmacology began to advance globally in the late 1960 s as a scientific oriented interdisciplinary field whose task was to objectify the effects of drugs in clinical practice and to provide the foundation for a scientifically justified, effective (and therefore optimal) level of pharmacotherapy. The emergence of clinical pharmacology was primarily conditioned by the rapid variation in therapeutic agents, some of which were based on entirely new principles. In addition, clinical pharmacology was gifted with solving drug illnesses and drug interaction problems as qualitatively increasing threats proportionate to increased consumption of different types of drugs. It is, therefore, regrettable that this concept of clinical pharmacology did not succeed in being integrated into the current national medical curriculum. In addition, social pharmacology has begun to differentiate, dealing with the social consequences of the human relationship to drugs, including ethical and economic factors.

The Department of Pharmacology staff in the Faculty of Medicine at Palacký University have been aware from the outset that theory and practice cannot stand in direct contradiction to one another and that none of the pre-clinical disciplines is so closely related to the social consequences of teaching as pharmacology. As such, since 1954, lecturers have included seminars on new knowledge in pharmacotherapy in the recommended optional education and also, since 1972, seminars on the basics of clinical pharmacology and the undesirable consequences of pharmacotherapy. The core principles of clinical and social pharmacology are also included at a moderate level in compulsory education.

Practical exercises in pharmacology have been incorporated into the curriculum since 1951 with the main aim of definitively specifying the principles of formal aspects of drugs prescription and to foster appropriate habits for a variable formula in clinical practice. The Department of Pharmacology has also consistently monitored the continuity of theory and practice and, as one of the few medical faculty departments of the Czechoslovak Socialist Republic, has since 1977 included in its standard education beyond the curriculum a student internship in its faculty pharmacy. After this was introduced, it was followed by an analysis of authentic defective recipes detected in the pharmacy service.

The Department of Pharmacology delivers education in the General medicine and Dentistry branches of the Faculty of



The first Head of Department: Prof. Hedvika Zemánková-Kunzová, M.D.

The second Head of Department: Prof. Jiří Lenfeld, M.D., D.Sc.

The Department of Pharmacology premises in the building on Fierlingerova Street

Medicine, and, since 1979, also in the second year of the Psychology branch within the Faculty of Philosophy. The existence of separate dental studies also required pharmacology education to be differentiated. The newly created concept emphasised general pharmacology and, in the context of the selected pharmacodynamic groups, was defined as a wider knowledge structure proportional to the undergraduate study of dentistry but simultaneously forming the basis for postgraduate study. This included drugs allowing for dental performance, drugs with preventive and therapeutic relevance in dentistry, drugs for sudden incidents, drugs with undesirable consequences in the oral cavity and drugs that adversely interfere with conventional dental pharmacotherapy. In the remaining chapters, the structure of knowledge is specified at the necessary overview level so that the student is informed about drugs that fall into the taught non-dental fields. The teaching for the branch of psychology must also be differentiated with a particular focus on the pharmacology of the nervous system.

The concept of teaching pharmacology in professional and social relationships allows a targeted ideopolitical action that is based on the Department of Pharmacology's long-term programme of systematically applying Marxist philosophy in its teaching, clarifying the social consequences of pharmacology and the work of a doctor. Specifically, these social consequences are clarified in the context of damage to civilisation, with an emphasis on progressive legislation regarding the prevention of pharmacotherapy's undesirable effects in socialist healthcare. In addition, the issue of commercialisation of production in capitalist states is discussed and great attention is paid to complex issues such as drug addiction whilst within the preparation of students for national defence professionally as well as socially strong negative opinions about the exploitation of science results are stressed, and so on. In the field examining the social consequences of the work of a doctor, effective pharmacotherapy is defined in the context of professional, ethical and ideological political factors. The social responsibility of the healthcare worker and all its consequences are identified and the students are informed within a discussion panel in lectures in cooperation with medical examiners about the work of expert committees, in which some (largely human) errors in therapeutic practice are reflected upon. Educational activity is also focused on nurturing students to take responsibility for the results of a study and to lead them towards precision, discipline and a correct attitude.

Within the framework of interdepartmental cooperation, the co-ordination of education in pre-clinical fields was clarified in the 1960 s. At present, however, it is necessary to highlight the relation of pharmacology to the Department of Therapeutic Dentistry with results that have been demonstrated both by statistical evaluation of the retention of pharmacological knowledge in higher years and by the commonly used mini--textbook (see below). On the initiative of the Department of Pharmacology, two interdepartmental national seminars on education and teaching in pharmacology were organised in Olomouc in 1974 and 1975. The conclusions of these were integrated into the new pharmacology education curricula in the Czechoslovak Republic, in general, and the aims and means of global education in pharmacology and the formulation of minimum skills were taken, developed by the Department of Pharmacology lecturers in the Faculty of Medicine at Palacký University. Traditionally, teaching methodology was monitored and developed. For example, slide projection was systematically used and teaching diaphones and visual aids were made; nonetheless, careful consideration was given to cases where chalk was preferable and where modern audio-visual processes and the activity of the examiner could be replaced by the teaching machine. The staff of the Department of Pharmacology always operated on the clear principle that the basis of effective teaching is a good teaching text. The pharmacology lecture notes were written by H. Zemánková soon after 1946 and then, in 1954, J. Lenfeld published the Pharmacological practicum for pharmacists and medics, which in 1956 guided the practical component of the teaching, supplemented by lecture notes by J. Lenfeld, L. Klabusay and M. Kroutil, titled: General pharmacology and an introduction to the drug formulations. For lack of national textbooks, J. Lenfeld, M. Kroutil, J. Jezdinský and J. Marek wrote in 1962 a one-part Overview of pharmacology as a basic textbook, which was extended to two parts in 1967 and published in 1971 and 1973 in the third and fourth editions of these lecture notes in three parts These notes subsequently became a basic textbook for the Faculty of Medicine in Brno. In 1963, the collective of authors J. Lenfeld, M. Kroutil, J. Jezdinský, J. Marek, and M. Grundmann completely conceived the Prescription practicum anew, which was until 1983 published in five editions. In 1975, after clarifying the profiling of dentistry study, J. Lenfeld and M. Kroutil co-wrote the textbook Basics of pharmacology for dentists, which went through three further editions before 1983 and also served as a textbook at the Faculty of Medicine in Brno. As a complement to the new national textbook and as a text for clinical pharmacology seminars, In 1984, J. Lenfeld published the mini-textbooks Introduction to the clinical pharmacology of pain and inflammation, Effective

drug prescription and effectiveness of therapy, Receptor therapy in clinical pharmacology and developmental pharmacology. In the press is a collaborative mini-textbook by the authors B. Fiala, J. Lenfeld, J. Stajskalová: Basics of effective pharmacotherapy in the field of therapeutic dentistry. In 1979, M. Kroutil and J. Lenfeld wrote Repetitorium of pharmacology in tests as an auxiliary textbook for use in the teaching programme. J. Lenfeld co-authored the national textbook of pharmacology (Rašková et al.) of 1959 and together with B. Fiala co-authored the national textbook Periodontal diseases, published in 1973 (Škach et al.). J. Lenfeld also co-authored the newly published textbook of pharmacology (Wenke et al.) and prepared entries for the national textbook on dentistry.

Since 1955, science students have worked in the department in ever-increasing numbers. An external output of this activity could be the fact that there were a total of 62 scientific lectures across various student scientific conferences (of which two were abroad). Thematically the students' scientific studies followed the department's planned research, but some were also focused on the economic issues of pharmacotherapy or on the development of new drugs. More importantly, however, as the question of students' ambitions in voluntary professional activity. This is why in 1975, the departmental staff, based on their long-term experiences, drew up detailed written goals and educational methods within SVOČ (Student voluntary scientific activity), which became the foundation for the department's educational work and which also later found a response in the SSM governing bodies at the faculty.

From the Department of Pharmacology emerged a screenplay for the competitive television show Academia film in 1984 (Enemies of attention).

In addition to undergraduate education, the Department of Pharmacology staff for many years devoted themselves to the postgraduate training of physicians and pharmacists in connection with the Institute for training of physicians and pharmacists at the Regional methodological-organisational cabinet KÚNZ in Ostrava and also within the seminars of individual OÚZNs and professional societies.

The following lecturers have been employed at the Department of Pharmacology since 1946:

Bedřich Bittner, M.A., MPharm. (1951–1952), Milan Grundmann, M.D., Ph.D. (1962–1978), Miroslav Holeš, M.D. (1951–1952), Jaroslav Jezdinský M.D., Ph.D. (1957–yet), Lambert Klabusay M.D. (1952–1957), František Kráčalík, M.D. (1951–1952), Mario Kroutil, M.D. (1953–yet), prof. Jiří Lenfeld, M.D., Ph.D. (1953–yet), Marie Manďáková, M.D. (1978–yet), Jaroslav Marek, M.D. (1959–yet), Jaroslav Opavský, M.D. (1948–1952), Vladimír Pelikán, M.D. (1946–1948), Jindřich Rosmanith, M.D. (1949–1950), Miroslav Talaš, M.D. (1950–1951, 1953–1954), Kamil Tikal, M.D. (1968–1970), Jaroslav Zemánek, M.D. (1953–1958), prof. Hedvika ZemánkováKunzová, M.D. (1946–1953).

The Department's Research focus

The department's basic programme of scientific research activities is the pharmacology of inflammation and inflammatory pain.

A germ of this topic can be found in the Department of Pharmacology's origins, when H. Zemánková investigated the influence of flavones on pathological changes in rheumatic fever and studied the possibility of the therapeutic influence of serum myocarditis using hyaluronidase, although she also dealt with the pharmacology of disulfiram.

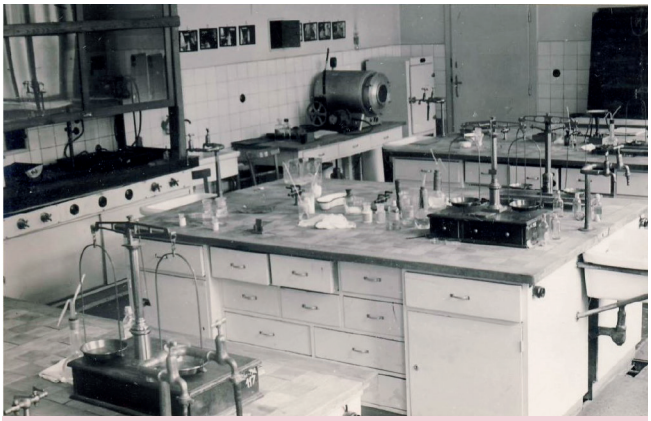
However, since 1953, research into experimental pharmacotherapy of inflammation has become a central issue. The department staff began to participate in the development of new anti-inflammatory drugs and new medical procedures in the area of inflammatory diseases as well as devoting attention to the development of new experimental methodologies. They simultaneously studied the relationship of anti-inflammatory drugs to neurohumoral regulation; first to the pituitary and adrenal cortex and later to the adrenal and pituitary glands. Prior to 1965, research was conducted at the departmental level but has since been transferred to remit of the state.

Before 1970, research results in this area emerged from the works of J. Lenfeld, M. Talaš, L. Klabusay, M. Kroutil, J. Jezdinský, J. Marek and M. Grundmann. Of particular note were the following:

a) The shared development of new drugs from a group of pyrazolone derivatives, in particular kebuzone (Ketazon), which was introduced into production, and cyazone, which was patented but no longer produced.
b) A new treatment for ulcerous gingivitis with hydrocortisone (in collaboration with the Department of Dentistry). Submitted as an improvement proposal.
c) A new treatment of periodontitis by combinations of hyaluronidase, corticoids and antibiotics (also in collaboration with the Department of Dentistry).
d) Experimental materials for a new herpes zoster treatment with emetine (together with a skin clinic). Submitted as an improvement proposal.
e) Experimental evidence of the importance of catecholamines released from the adrenal gland as an anti-inflammatory mechanism in many pharmaceuticals.
f) Experimental evidence of the nonspecific anti-inflammatory effects of a variety of drugs (e.g. antibiotics, chemotherapeutics, antiseptics, spasmolytics and psychopharmaceuticals.).
g) Experimental evidence of anti-inflammatory agents acting in the pituitary gland.
h) Experimental studies on the pharmacokinetics of chloroquine and its relationship to adrenals.
i) Patent: Kupčík, F., Konupčík, M., Liška M., Lenfeld, J.: A method for the preparation of new derivatives of 3,5-dioxysazolidine (PV383260).

Research in the field of the experimental pharmacotherapy of inflammation expanded around the 1970 s around the topic of inflammatory pain, which enabled an original methodological approach with newly developed and patented apparatus to objectively assess both the reflex and affective component of pain in small and experimental animals while monitoring the inflammatory response. This scientific research activity focused on the mechanisms of anti-inflammatory and analgesic agents, the development of new anti-inflammatory drugs, the problems of anti-inflammatory interactions with other substances from pharmacodynamic and toxicological points of view and the development of new methodologies in relation to the preclinical evaluation of anti-inflammatory drugs.

From the significant results of this period, which were contributed to by J. Lenfeld, J. Jezdinský, M. Kroutil, J. Marek, M.



The department's large practice laboratory in the old building of the Faculty of Medicine at Palacký University

Manďáková, J. Hálek and E. Krč, it is possible to mention:

a) Materials for a more objective evaluation of anti-inflammatory drugs and analgesics and their combinations in preclinical research using the method for the analysis of effects on the reflex and affective component of pain, which were taken over by other research centres (VÚFB, the Department of Pharmacology at the ČSAV).
b) Partial isolation and pharmacological evaluation of anti--inflammatory substances from the domestic plant Conyza canadensis as an experimental material in semi-operational tests of the production of these anti-inflammatory extracts from this plant.
c) In cooperation with other departments within KRB, the pharmacological evaluation of the new drug Sanchelin from the celandine plant from the perspective of its use in paradontopathies.
d) Evidence of inappropriateness regarding the combinations of many anti-inflammatory drugs both from a therapeutic and toxicological point of view.
e) The development of traumatic and inflammatory swelling following the application of bentonite as part of the refinement of a preclinical evaluation of anti-inflammatory drugs. A detailed study of the reactivity of bentonite swelling and inflammation under various conditions and after the administration of a wide range of drugs.
f) Evidence of a gradual reduction in the effect of some anti--inflammatory drugs upon repeated application.
g) The objectification of acupuncture points in animals and evidence of synergism between anti-inflammatory drugs and acupuncture and a reduction in acupuncture efficiency after a depletion in agents from mast cells.
h) The simple modification of the method of evaluating platelet aggregation in full blood from a smear, according to the original methodology set out by Velaskar and Chitre.
i) Patents:
   - Hálek J., Jezdinský J.: A device for the measurement of nociceptive reaction in laboratory animals (PV169167, also patented in USA, Switzerland and GDR).
   - Hálek J., Prucek M., Kocourek J., Kolářová J.: Different electrodes for diagnosis and therapy in acupuncture (AO-223484).
   - Hálek J., Kocourek J., Kolářová J.: Different electrodes for diagnosis and therapy in acupuncture (PV930281).
   - Hálek J., Bartušek J.: Equipment for therapy and diagnostics in acupuncture (PV0183383).

In addition to the basic topic, the state task was solved (J. Lenfeld, M. Kroutil, J. Hálek) during the period 1962-1975, focused on the pharmacodynamics of cholinesterase reactivators in combination with anticholinergics. The results were significant and included the following findings:

a) Cholinesterase reactivators (trimedoxime, pralidoxime and obidoxime) have anti-inflammatory effects.
b) The preventive application of re-activators and anticholinergics before or during the extreme burden of an organism is inappropriate due to higher toxicity.

Since 1972, cooperation has taken place with n. p. Galena on the development and innovation of pharmaceutical products in the form of VHČ as part of research into new drugs. Thus far, this cooperation has produced the important innovations outlined below:

a) The preclinical development of the new drugs Protosan and Ersilan.
b) A complex evaluation of the influence of ergot alkaloids and their derivatives on microcirculation has taken place, providing evidence of the anti-inflammatory effects of lisuride, unrelated to its antiserotonin action and allowing an extension of lisuride indications.
c) Sharing has taken place through partial preclinical tests to develop a further 30 products to put into practice.

Prior to 1985, the department's staff produced 356 scientific publications, one scientific monograph, a participation on other scientific monographs and 84 collective papers. The department also presented 773 professional lectures, 60 popular scientific lectures and penned eight television screenplays with professional themes. Over the course of 40 years, five patents were granted to the department staff (one for new medication and five for new devices) and a total of 13 improvement proposals (five for new drugs and eleven for new methodologies) were submitted and accepted, ten lectures were awarded by the Czech Medical Association and J. E. Purkyně was awarded two honourable mentions for scientific work.

Scientific research cooperation was developed with departments at the Faculty of Medicine of Palacký University as well as with non-faculty workplaces, especially with ČSAV, the Research Institute for Pharmacy & Biochemistry (VUFB), the national companies Farmakon and Galena and with KÚNZ Ostrava. Two members of the department also belonged to the Complex rationalisation brigade (chemistry, therapeutic dentistry, pharmacology, microbiology, faculty pharmacy), which was established with the aim of studying the therapeutic use of alkaloids from celandine and whose activity was awarded in 1985 with honourable mentions by the Federal Government and the Central Council of Unions.

Moreover, there were links at the international level, especially with the Department of Pharmacology at the University of Szeged (study visits by two workers from Olomouc and one from Szeged), the Institute of Biochemistry at the University of Leipzig (study visits by two workers from Olomouc and four from Leipzig) and with the Department of Pharmacology at Vilnius University (study visits by two workers from Olomouc and two from Vilnius, one of which was a single-year placement). Additionally, cooperation with Leipzig and Vilnius were reflected in joint scientific publications.

The Department of Pharmacology was the organiser of four

national pharmacological conferences (in 1955, 1961, 1966 and 1975), two professional seminars in cooperation with the Professional information centre Spofa (in 1975 and 1978) and one seminar on narcotic drug addiction for customs officers in the ČSSR together with the Department of Hygiene (in 1971).

Due to its professional focus, the Department of Pharmacology has cooperated since 1970 on the scientific analysis of prescription in two KÚNZ workplaces and in the pharmacies of OÚNZ, Olomouc on the editing of its regional prescription book, prepared basic information materials on behalf of Spofa including articles on drug interactions produced by Spofa Company. Additionally, the department's staff members are permanent consultants for the Czechoslovak Republic's Ministry of Health on the subject of the registration of domestic and foreign medicines. One of the department's staff is also employed by the Drug Commission to organise the clinical testing of foreign medicines at the Olomouc Teaching Hospital. Furthermore, the long-term aims of the department in the development of clinical pharmacology were fulfilled when one of its members was appointed Chief of Staff of Clinical Pharmacology in KÚNZ, Ostrava.

All of the department's teachers participate in the research work together with the lab technicians. However, J. Hálek, M.Sc. is included only in the research activity, designing new devices and who, as a bioengineer, has a significant share in the innovation of methodological procedures, creating programmes for the department computer. In addition, E. Krč participates only in research and documentation activities. Besides these undergraduates, one technician is allocated to science and research.

It follows from the above that the long-term scientific research activity of the Department of Pharmacology is reflected not only in the results of its experimental theoretical work contributing to the development of the field, but also in the fact that it has brought forth a number of new findings that are applied in diagnostic and therapeutic practice. A substantial portion of its work in recent years has been devoted to the innovation of medicinal products and the development of new medicines in cooperation with the pharmaceutical industry.

All the department's teachers are involved in political--educational work in colleges through lectures and discussions on foreign travel experiences, certain contemporary youth issues – especially drug addiction –and the nature and methodology of scientific work.

J. Lenfeld