

The teaching of physiological disciplines in the 3rd Faculty of Medicine, Charles University, Prague, Czech Republic*

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The physiological disciplines are being taught from the 1st year of medical study up to the end of the 4th year, it means 8 semesters altogether. It is necessary to explain the curriculum of the 3rd Faculty of Medicine, Charles University in Prague. This Faculty has had a new curriculum since 1997, so the first students, who had been taught as to this system, already finished their study. The duration of medical study is 6 years, i.e. 12 semesters. This composed of three cycles:

I *Basic biomedical sciences*. The first two years represent the first cycle, which is based on the integrative principle.

II. *Principles of clinical medicine*. The second cycle is concerned on the problem – based learning

III. *Clinical preparation*. The third cycle represents clinical application.

In the first two years the integrative study is composed of different modules. The first module I A- *Structure and functions of human body* is the greatest module in the first two years, which is composed of anatomy, histology and embryology, biochemistry and physiology. The module I B - *Cell biology and genetics* is composed of genetics and cell biology and this module is finished by the examination after two semesters at the end of the first year.

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Module I C- *Biophysics and informatics* consist mainly of the disciplines based on the biophysical knowledge. It is formed from biophysics itself, then from radiology, nuclear medicine and sources of scientific information. Module I D called “*Needs of the patients*” is taught also during the four semesters of the study and is divided into two parts. The first one is theoretical (basic humanities – philosophy, sociology) in which mainly the medical ethics is taught; the other part is about practical disciplines in the hospital (first and patients needs, basic nursing). The students are going to the hospital from the beginning of their study and they are working in the hospital, what is very useful for their future professionals carrier.

I would like to mention a speciality of the first module (module I A) “Structure and function of the human body”. This module is taught during the first two years, it means four semesters and it is ended by a common examination, which is at the end of the fourth semester. The system is based on the successive teaching starting always with the embryology, followed by anatomy, histology, biochemistry and finally by physiology. Physiology is the covering discipline of the whole system. This module requires the knowledge of biophysics, which is taught in module IC and chemistry, which is taught mainly in module I. B. The module is taught following the organ’s-systems:

1. Locomotion System
2. Respiration, Blood and Body Fluids
3. Urogenital System. Acid-Base Balance
4. Digestion and Resorption
5. Circulatory and Immune System
6. Endocrine System
7. Nervous System and Regulation of Motor Function
8. Sensory Organs

As a governing discipline, physiology is taught together with all other disciplines, but always at the end. The students are trained mainly in the practical applications of all disciplines. In the physiology except of lectures, we have also the seminars and the practical exercises. The practical exercises are demonstrated on partly using on animals and on men. It is inevitable that all students without exception have to practice themselves. All practical exercises are executed by students. We have also the computer demonstrations using all possibilities of computing teaching of physiology. At the end of this 4th semester is the credit, which is mainly based on the practical exercise knowledge. At the end of the whole four semesters, there are three parts of the final examinations. The first one is the final credit, followed by practical exercise from the practical knowledge of physiology. Finally this is a multiple choice test independent of all other disciplines. The common examination in all the four disciplines is taken within one day. Oral examinations are taken in anatomy, histology, embryology, biochemistry and physiology.

Common conferences on each chapter of structures and function of the human body are very important part of our teaching; for example after the chapter of hormones, there is the conference in which the headlines of all endocrine chapters are repeated in

the presence of clinicians. We start with the clinical demonstration of a patient than we repeat the knowledge on all basic disciplines. This is very important, how to stress the main headlines of all four disciplines and also to know about what the other disciplines are teaching. This is very useful not only for students, but also for the lecturers and for all the teaching staff. In four semesters we organize 8 conferences.

In this first two years we teach also clinical physiology, which is concerned mainly on clinical investigations. It is very much dependent on the equipment which is dispensable. Therefore we teach mainly neurophysiology and neurological examination and also the examination of respiration and cardiac function.

The final examination from all the four disciplines is very difficult, because it is necessary to have the knowledge of all subjects. It is necessary to remark that we do not ask less important questions, rather the headlines and for important principles, which are absolutely necessary for the next step of the medical education. After all, the students are very well trained in all the four disciplines and they can proceed the study without any problem.

The other physiological disciplines are taught in the 2nd cycle principles of clinical medicine in the third and four year; i.e. from the sixth to the eighth semester. This is mainly concentrated on the teaching pathophysiology; it starts with general pathophysiology (the duration is one semester), general pathology and general pharmacology, which are again taught together. In this respect we are very close to pathological anatomy. We have the common seminar similar to the cooperation between anatomy and physiology. The teaching of special pathophysiology is based on the explanation of different symptoms and syndromes like headache, chest pain, kidney diseases, etc. This is very similar to active teaching. Also during this period, the clinical physiology is taught with special attention paid to pathological disciplines.

The physiological problems are again repeated in the fifth and six years in the 3rd cycle, in the clinical disciplines, especially in the internal medicine, surgery, gynecology and obstetrics, pediatrics, ophthalmology, etc. Clinicians ask the students on the basic knowledge and then physiology comes again to discuss and also explain some news from the last two or four years after studying the physiology itself.

It is possible to declare that physiological disciplines have very important position in the new curriculum at the Third Faculty of Medicine, Charles University in Prague. They are taught for a long time (4 years) and there are in fact passing through whole medical study up to its end. Teaching is the responsibility of the Department of Normal, Pathological and Clinical Physiology. It is composed of fifteen teachers including one professor, three associate professors and other senior lecturers and assistants. Also postgraduate students are participating in teaching.