

Bodnya A. I. Main stages of the development of the specialty "Orthopedics and traumatology". Journal of Education, Health and Sport. 2022;12(4):166-172. eISSN 2391-8306. DOI <http://dx.doi.org/10.12775/JEHS.2022.12.04.014>
<https://apcz.umk.pl/JEHS/article/view/JEHS.2022.12.04.014>
<https://zenodo.org/record/6473793>

The journal has had 40 points in Ministry of Education and Science of Poland parametric evaluation. Annex to the announcement of the Minister of Education and Science of December 1, 2021. No. 32343. Has a Journal's Unique Identifier: 201159. Scientific disciplines assigned: Physical Culture Sciences (Field of Medical sciences and health sciences); Health Sciences (Field of Medical Sciences and Health Sciences).

Punkty Ministerialne z 2019 - aktualny rok 40 punktów. Załącznik do komunikatu Ministra Edukacji i Nauki z dnia 1 grudnia 2021 r. Lp. 32343. Posiada Unikatowy Identyfikator Czasopisma: 201159. Przypisane dyscypliny naukowe: Nauki o kulturze fizycznej (Dziedzina nauk medycznych i nauk o zdrowiu); Nauki o zdrowiu (Dziedzina nauk medycznych i nauk o zdrowiu).

© The Authors 2022;

This article is published with open access at Licensee Open Journal Systems of Nicolaus Copernicus University in Torun, Poland

Open Access. This article is distributed under the terms of the Creative Commons Attribution Noncommercial License which permits any noncommercial use, distribution, and reproduction in any medium, provided the original author(s) and source are credited. This is an open access article licensed under the terms of the Creative Commons Attribution Non commercial license Share alike. (<http://creativecommons.org/licenses/by-nc-sa/4.0/>) which permits unrestricted, non commercial use, distribution and reproduction in any medium, provided the work is properly cited.

The authors declare that there is no conflict of interests regarding the publication of this paper.

Received: 23.03.2022. Revised: 04.04.2022. Accepted: 20.04.2022.

MAIN STAGES OF THE DEVELOPMENT OF THE SPECIALTY "ORTHOPEDICS AND TRAUMATOLOGY"

A. I. Bodnya

Odessa National Medical University, Ukraine

orcid.org/0000-0002-4042-3599

Abstract

The most significant components of the educational process at the Department of Traumatology and Orthopedics of the Odessa National Medical University (Ukraine) under modern conditions are highlighted. **Purpose:** To determine the future orthopedist-traumatologist professional training main stages, including the means of implementing the development of the specialty. **Materials and methods.** The specific conditions of the specialty "Orthopedics and Traumatology" development under certain circumstances (COVID-19 pandemic; martial law) in the phased professional training of specialists. The following empirical methods were used: observation, test, questionnaire method and method of conversation and interview. **Results:** It has been determined that there is a significant difference between full-time and distance/on-line learning for higher education applicants, since most clinical competencies require the personal presence of a doctor. It is live contact at the bedside of the patient, as well as with the staff of the in - patient departments and colleagues of the chairs will create a situation of real professional growth, which cannot be replaced by any virtual technology of a specialty practical mastery. **Conclusions:** The main

stages of education affect the development of the specialty, depending on the pace and body of acquired knowledge and skills. The professional qualities of an orthopedist- traumatologist are subject to education by all available methods and means, starting from the student bench of a medical university. Further deepening and improvement of knowledge and skills should continue until the end of one's professional activity, especially in difficult and unforeseen situations.

Key words: stages of medical education; specialty development; problems of distance learning

Introduction. The main stages and directions in the educational process development and means of its optimization in a higher educational institution (HEI), occupies an important place in the design of pedagogical researches. Their role is growing under the conditions of COVID-19 pandemic and martial law. Modern medical education is experiencing difficulties caused by these circumstances. Most universities are forced to switch to distance learning and, as a result, teachers have a number of issues related to the organization and implementation of full - fledged and effective educational activities [2]. At the same time, foreign teachers believe that distance (correspondence) medical education is not inferior in quality to full - time education [4, 5].

The current critical circumstances (pandemic, marital law) are a challenge of the times that should be approached with special attention. The temporary transition of the educational process to an alternative mode of study due to the current crisis circumstances should not affect the body of knowledge, quality of mastering special medical and practical skills, both among domestic and foreign applicants for higher education, as all mentioned above are the important factors in future specialist training [3]. To improve the quality of a future medical specialist training is the priority [1, 2] in the provision of educational services in medical universities.

The purpose: To determine the future orthopedist-traumatologist professional training main stages, including the means of implementing the development of the specialty

Material and methods. The conditions of the specialty "Orthopedics and Traumatology" development under certain circumstances in the phased professional training of specialists were the methodological basis of the present analytical study. The following empirical methods were used: observation, test, questionnaire method and method of conversation and interview.

Results and its discussion. Methods of diagnosis, treatment and rehabilitation of patients with lesions of the musculoskeletal system in peace- and wartime are the subject of study for the 5th year students of the Medical Faculty in the course of such academic disciplines as "Traumatology and Orthopedics" and "Military Surgery", delivered at the Chair of Traumatology and Orthopedics of the Odessa National Medical University.

At the first stage of mastering the specialty, these academic disciplines are mandatory and are based on the study of general surgery, starting from the third year. It is here that students are instilled with an interest in this academic discipline and show its special importance for healthcare in general. Under the conditions of full-time education, students are given the opportunity to get acquainted with the clinical signs of trauma and diseases of the musculoskeletal system, to learn the general patterns of the wound process, the complications that have arisen, especially those of an infectious nature. It is also necessary to master practical skills: examine patients with injuries and diseases of the musculoskeletal system, study desmurgy and master the process of applying soft and plaster bandages.

Further, in the 5th year, the stage of a deeper and more consistent study of the basics of traumatology and orthopedics, as well as the features of the organization of medical care during military operations and evacuation, follows. During the full-time study of the disciplines taught at the Chair, new knowledge and practical skills are acquired. The basis of the educational process is the independent students' work (ISW), aimed at extracurricular development of theoretical and practical knowledge. Students deepen their theoretical knowledge in the discipline in accordance with the curriculum and acquire new practical skills (curation and writing a medical history of the victim, dressings, removal and application of various plaster bandages, familiarization with the technique of applying skeletal traction, etc.).

There is no doubt that in the specifics of medical education there are significant differences between full-time and distance learning at a university, since most of the clinical competencies of a future doctor require personal presence in class and participation in the practical work of a hospital. It is impossible to imagine getting practical skills in traumatology without students visiting the emergency room, dressing room, plastering room and without observing the work of a traumatologist in the operating room.

The next stage in orthopedics and traumatology mastering is an internship, during which the Chair prepares a future specialist for independent work as a hospital intern, a doctor in an emergency room or an orthopedic room in a polyclinic. The training of an intern doctor

is carried out for 2 years according to an individual plan, where the assistant professor of the Chair and the head of the orthopedic and traumatology unit act as curators.

An important task of the mixed form of training in internship is to increase and improve the level of interns' theoretical and practical training, to develop the skills of readiness for independent medical practice. However, under pandemics, in cases of identifying sick or contact interns, we were forced to transfer them to on - line learning.

In the modern pedagogical sphere of higher education, there is an urgent problem of timely abandonment of outdated knowledge, skills and abilities, replacing them with the new ones. The pedagogical directions proposed for discussion show ways to optimize the educational process that are available to most teachers of medical universities. Thus, the draft internship training program in the specialty "Orthopedics and Traumatology" (Order No. 2390 dated November 1, 2021) presented by a group of experts of the Ministry of Health of Ukraine for professional discussion, certainly complies with the European standards for postgraduate training of doctors and will improve the quality of education of interns in this specialty. However, the program is extremely different from the current one, primarily in terms of theoretical and practical training, which were previously more balanced. A 50% of study hours reduction, in our opinion, is a shortcoming of the program. The expediency of maintaining a balance between theory and practice has been confirmed by time, since they are interconnected and one cannot give preference to one or another. We cannot but remind the philosophical expression that theory without practice, like practice without theory, is worthless.

The section "Congenital diseases of the musculoskeletal system" is debatable, moreover for several decades adult and pediatric traumatology and orthopedics have been divided in this country. Theoretically, congenital pathology is studied at the Chair, but in practice, it is impossible for interns to master the listed skills on the basis of internships (trauma units) due to the lack of children hospitalization in the named units.

The section "Arthroscopy and arthroplasty of large joints" is not a level of mastering these skills for an intern doctor at this stage of his professional development. In our opinion, an intern doctor should develop in his chosen specialty gradually, over time mastering the basics, first of all, of diagnostics and osteosynthesis. Then, if there is enough accumulated clinical and practical experience, he can master high technologies in orthopedics - that is, he should move from the so-called "simple to complex", according to the existing corresponding medical category.

We believe that some of the practical skills such as laparocentesis, craniotomy listed in the program for a future orthopedist - traumatologist, especially in the body presented, are inappropriate, because in real practice he will never do this. First of all, he will not be allowed to perform these operations by legislation, which he should not violate. For these manipulations, there is a sufficient number of relevant specialists trained in these sections of surgery.

Also, it should not be expected that it is precisely on the basis of the use of conventional innovative systems and modern information technologies in the process of distance or mixed form of training for an intern doctor there will be the same effect as with traditional training and acquiring a specialty.

The educational process in the institutions of higher learning is a complex system that includes not only a theoretical base, but also an optimal list of practical skills. It is impossible to train a highly qualified surgeon either only on the theoretical basis, or virtually on the monitor screen under the absence of the possibility of carrying out diagnostic measures, closed manipulations and surgical interventions in real life. It is the live contact of the doctor-intern at the bedside of the patient, as well as with the staff of the department and colleagues of hospitals will create a situation of real professional communication and growth, which cannot be replaced by any technology of practical mastery of the future specialty. To obtain a medical profession is extraordinarily responsible for the applicant for higher education, since it is obvious to everyone that the patient's life will depend on the knowledge and skills of a medical specialist.

After completing the internship, an orthopedist- traumatologist, despite the presence or absence of critical circumstances, must know the mechanism of formation and theory of damage, the biomechanics of deformities, conduct a differentiated and establish a clinical diagnosis, according to which the optimal treatment should be prescribed.

The basis of the clinical thinking of any doctor, and an orthopedist – traumatologist is not an exception, is knowledge of the fundamental sciences. To read special literature, attend thematic and pathoanatomical conferences, participate in various thematic webinars, clinical rounds and clinical cathedral discussions of patients is of invaluable importance for the development of clinical thinking. Modern medical activity of an orthopedist-traumatologist requires maintaining a high level of knowledge, skills and their continuous improvement in accordance with the category and the requirements of the time. This direction of practical activity of doctors of any specialty is united in the term “continuous professional

development”, according to which, from the moment of getting a higher medical education, training in an internship and throughout the entire professional activity, a specialist is obliged to increase the level of his own knowledge and skills.

Clinical residency is an important stage of development in postgraduate education for an orthopedist-traumatologist. Within 2 years, under the guidance of the head of the Chair, the training of a qualified specialist with deep clinical thinking, who is able to manage a trauma center or head a specialized units, takes place according to an individual plan.

The final stage in the development of specialty and training of a qualified orthopedist-traumatologist is postgraduate study. In addition to writing a thesis, a graduate student, as a future candidate of medical sciences (Ph. D) has the has the opportunity to perfectly understand the pathology of the musculoskeletal system, master modern methods of patients’ diagnosing and treatment, and also learn the first experience of academic discipline teaching at the university as an employee of the teaching staff of the Chair.

Thus, the prospect of development of the specialty continues along the so-called upward spiral of higher education and the transfer of experience accumulated over the years to future generations of orthopedist - traumatologists. As for the ways to implement the stages of specialists’ training, they are numerous and include the whole range of educational activities of higher education: lectures, practical classes, ISW, research work of students, modern means of providing thematic information, participation in student movements, webinars, conferences, congresses, etc. Of all the activities listed above, the ISW is of the greatest importance, since a person who has learned to work in his student years will constantly improve his knowledge in the process of labor activity. Of particular importance in this and in the implementation of the stages of specialist training, of course, is the teacher’s personality, his professional and moral qualities.

Conclusions:

1. The main stages and prospects for the development of higher education should reflect all the most significant aspects of the training of a medical specialist, express his main qualities in a specific form, meet the current level of development of science and the amount of accumulated information. Specialist should constantly improve, depending on the pace of separate sciences development and the amount of knowledge .

2. A doctor of any specialty, not only an orthopedist - traumatologist, must work according to his vocation, be proactive, conscientious in work, be hard on oneself and subordinates, be a good organizer and have high morals, especially in difficult and unforeseen

situations. These qualities are subject to education by all available means, starting from the student bench of a medical university, besides in the future, the deepening and improvement of knowledge and skills should continue until the end of one's professional activity.

Conflict of interest: The author declares no conflict of interest and no financial interest in the preparation of this article.

References:

1. Distance learning in quarantine through the eyes of medical students / GA Yeroshenko, OD Lisachenko, TM Klymach et al. // Bulletin of problems of biology and medicine. - 2021. - № 1 (159). - P. 163-168. DOI: 10.29254 / 2077-4214-2021-1-159-163-168

2. Distance learning in the professional training of future doctors: pro et contra / OI Gerasimenko, TP Polesova, VV Gerasimenko, HC Kukhareva // Trauma. - 2021. - Volume 22, № 5. - P. 38-40. DOI: 10.22141 / 1608-1706.5.22.2021.244466

3. Filyuk IO Methodical aspects of teaching the cycle "Neurology" to foreign students at Dnepropetrovsk State Medical University / IO Filyuk, OI Kalbus, NP Shastun // Ukrainian Journal of Medicine, Biology and Sports. - 2022. - Volume 7, № 1 (35). - P. 288-290. DOI: 10.26693 / jmbs07.01.288

4. The assessment clock: A model to prioritize the principles of the utility of assessment formula in emergency situations, such as the COVID-19 pandemic. / W. Majed, ME Abdalla, H Khalafalla, MH Taha // Med Ed Publish. – 2020. – № 1 (9). – C. 1-6. DOI: 10.15694/mep.2020.000086.1

5. Zimmerman J. Coronavirus and the great online-learning experiment / J. Zimmerman // Chronicle of Higher Education. – 2020. – № 10. URL: <https://www.chronicle.com/ article/Coronavirus&the-Great/248216>