



**Oleh DOLYA,
Nelya YARESHKO,
Alla MARUSII**

Administration of modern digital technologies towards changes in postgraduate medical education in Ukraine

There are many changes in the fields of education and health care in Ukraine today. However, post-graduate education is left aside, leading to internal conflicts between outdated dogma and the qualification requirements of a young doctor. The contemporary world, which is dynamically changing requires changes in the teaching of medical education, especially after obtaining a diploma, the acquirement of so-called specialization.

In different countries, the medical community has organized its health and medical systems in different ways. However, despite different achievements, there are some common problems, which can be solved using similar techniques. A rationally organized system of education is capable of not only self-replication, but also of preparation of new highly skilled specialists both in scientific and practical ways, cultivating the principles of academic integrity [1].

It should be noted, that there are unique conditions in Ukraine today, which allow leaning towards the positive experience of the countries of Europe or the USA, to build a new medical and educational environment with the best international standards for both medical education and medical practice. We shouldn't also neglect some of the side-effects of reforms that manifest themselves in the later period, and which we can observe in the developed models of Western countries.

The mentality peculiarities, the current condition of the medical community in Ukraine, its static nature, and the reluctance or misunderstanding of changes in each link, both in the educational process and in the practice of medicine, create many obstacles for the introduction of new ideas [2, 3].

The period of study after obtaining a diploma is called an internship. Since the beginning of the first changes in medical education, many reformers were aware that the Soviet standard of training in one year or 1.5 years for surgical specialties, is not enough to get a good specialist. Therefore, the easiest way was chosen – to increase the term of study in internship, but no directions on how to fill added time were given.

If we do not go into details, the average citizen thinks: you can train any doctor in any sub-speciality and divisions in surgery for 3 years (36 months)

But as the old proverb goes, "the devil lies in details"! Such a situation would have the right to exist, if there were University Clinics, where the intern could stay the whole period of study, where there would be the rotation of departments from general to highly specialized. But unfortunately, there was no such practice in Ukraine as and the Universities were not provided with financial costs for the creation of their clinics.

According to the main document "Regulations on internship", which regulates all relations, the period of study is divided into full-time and part-time forms. A full-time form is a period when an intern is present at the base of the University, where there are teachers, and part-time form is a period when an intern works in a department.

In real life, it often turns out that these departments are not university bases, moreover, they can be situated in other cities or neighboring areas. And here the questions arise: who is teaching, how the process is controlled, how to assess the acquired practical skills.

If the base of a part-time form of training is the future place of job, and the head of the department is interested in training a young specialist, then the success in solving this issue is to some extent realized. Most

likely, the opposite is true. The contemporary model of the economy is based on the principles of competition, and it is unknown where one or another specialist is going to work. Clinical and logistical supplies of one surgical department do not correspond to the scale of specialist training.

During the first year, the full-time form takes 6 months, the second year takes 4 months, the third year takes 2 months. Only 12 of 36 months. According to the information content, if during the course of 12 months only abdominal surgery was studied, then at the end of studies our graduates could feel confident enough alone on duties to provide emergency abdominal surgical care.

But according to the plan for these 12 months, it is necessary to consider almost all questions of general surgery, which include: thoracic surgery, abdominal surgery, proctology, endocrine surgery, cardiovascular surgery, transplantology, purulent surgical diseases, combustiology, outpatient surgery, urgent gynecology, urgent urology, pediatric surgery, oncology, traumatology and orthopedics, neurosurgery.

To master all this diverse material for the year, both theoretically and practically, is impossible. We unknowingly ignore the more detailed consideration of those issues with which a young specialist will meet more often at the beginning of his independent activity, where more errors may occur.

The same model plan contains a very detailed list of practical skills and operations that the intern should possess.

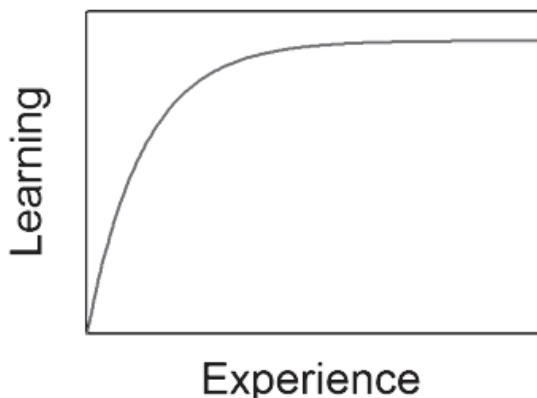
It is unknown how to confirm the reality of implementation and the level of mastering of practical skills. The examination generally goes down to a subjective interview on a method of performing the operational technique, which for surgery, as a section of medicine, where praxis is the main part is unacceptable. If we do not get all the real information, we can't react quickly and clearly and change the situation to better.

The intern's documentation includes so-called "diaries", which, according to the title, should be carried out daily and reflect everything that the intern has performed during the working hours. But not all the work, which is done by an intern in the department is aimed at confirming or mastering the programmed skills. Therefore, diaries do not provide all the necessary information about the practical training of an intern.

The solution to this situation can be found with the help of the achievements of the XXI century, namely the developed digital technologies, Internet and smartphones for every average citizen of the young age. It is appropriate to mention such theoretical concept, as

a "curve of training" especially in the aspect of applied, not theoretical skills, and to quote one of the most prominent figures of the present:

Average is smooth



Drawn with R using R-studio
© Alan Fletcher 2013 This file is licensed under the Creative Commons Attribution-Share Alike 3.0 Unported

“ The level of skills depends only on the number of correctly repeated actions” MD, professor, проф. Lucevych O.E. So, to master one or another technique, it is needed to be performed several times, and each subsequent time will have a better result than the previous one until a "plateau" is reached.

A study was conducted among the anesthesiologists to find out, after which minimal number of performed intubations, skill does not increase significantly.

That number was 200, so, it does not matter if it is 201 or 1000 of intubations, the technique remains constant. This is a clear example of a "training curve".

To facilitate accounting, it is necessary to define obligatory skills and secondary ones. Interns can master all skills according to the program, but there must be a minimum program - the skills that are mandatory for everyone, the skills which interns must perform on their own. In this case, the number of reps should be not less than 50 during the period of internship, their account should be carried by the curator of the group. The existing formula which means that a specialist diploma is received by anyone who has waited for the completion of 3 years of study should be canceled [4].

Taking into consideration that the only document certifying the employment of an intern is "Intern's Diary", we propose to change the format of its management into an electronic one. That means creating an account on a certain online resource, where data on the volume of performed work will be made. It is not necessary to enter data in Word, it is easier to perform photocopying of protocol work on the illness history.

This change means:

1. Saving time on accounting.
2. Process objectification of mastering skills
3. Monitoring process in real-time, since the electronic diary is on-line, and the group curator can view the records at any time.
4. An unknown phenomenon appears, namely competition among interns for primacy, which can be encouraged in various ways. Participants in the group can see each other's success, it induces them to work more actively and honestly and to fix the work done in the diaries.
5. An unexpected by-product of the proposed innovation is the creation of the portfolio of achievements and skills with the ability to provide video materials for performed surgical interventions, etc. Such a product will soon be highly sought after in the labor market with high competition as an objective characteristic of a specialist.

All collected material can be divided into different folders, which will be named according to appropriate skills and after reaching the required number of repetitions (each repetition is a separate photo file), the skill can be considered successfully mastered.

Such a small change in the reporting documentation will solve many hidden issues. First of all:

Self-discipline will increase among young specialists. The amount of paper carriers that can be analyzed is extremely difficult.

The accounting of mastered skills will be facilitated.

Possibility of remote control over the mastering of skills, regardless of the location of the department in which the intern works part-time.

Moreover, if the intern cannot master a certain part of the material due to an objective reason - the lack of "power" of the department, it will be possible to react promptly by replacing the department. The proposed changes do not require any financial costs and will already be able to change the situation for the better in the preparation of a young specialist.

References:

1. The reformation of medical education is extremely important. "Weekly Mirror", April, 29, 2018r Inna Sovsyn, Alexander Linchevskii
2. Reform of medical education: Can the American dream come true? "Your health", 19.05.2017 Svetlana Ternovaya
3. American learning: How does the Ministry of Health reform medical education? "RBK-Ukraine" 14.09.2018 Dmitrii Ulyanizkii.
4. The horrors of medical education or how to become a doctor 2 Inessa Savonova blog, TSN, 28.09.2015

Authors

Dolya Oleh,
*PhD, Assistant,
Department of Surgery and
Anesthesiology, Postgraduate Faculty,
Zaporizhzhia State Medical University
Zaporizhzhia, Ukraine
E-mail: 03_11@ukr.net
ORCID 0000-0001-6916-5725*

Yareshko Nelya,
*PhD, Docent,
Department of Surgery and Anesthesiology,
Postgraduate Faculty,
Zaporizhzhia State Medical University,
Zaporizhzhia, Ukraine,
E-mail: nelya39@ukr.net
ORCID 0000-0002-2405-2776*

Marusii Alla,
*Post-Graduate Student,
Department of Surgery and
Minimally-Invasive Technologies,
Zaporizhzhya State Medical Academy of
Postgraduate Education of Ministry
of Health in Ukraine,
Zaporizhzhia, Ukraine,
E-mail: alla.marusiy@gmail.com
ORCID 0000-0002-2260-9517*

Abstracts

DOLIA O., YARESHKO N., MARUSII A. Wykorzystanie współczesnych technologii cyfrowych na drodze zmian w medycznym kształceniu podyplomowym w Ukrainie. *Reforma opieki zdrowotnej Ukrainy, która obecnie się odbywa, integracja krajowej nauki i praktyki medycznej ze światową wymagają od instytucji kształcenia medycznego przygotowania współczesnych fachowców w dziedzinie medycyny. Osiągnięcia XXI wieku, mianowicie rozwój technologii cyfrowych, globalna sieć internetowa i smartfon w ręku każdego młodego obywatela mogą w tym pomóc. Podstawą proponowanej innowacji jest „krzywa nauczania” oraz opracowany mechanizm obiektywizacji oceny nabytych umiejętności, możliwość monitorowania ich pozyskiwania online. Przedstawione pomysły nie wymagają dużych nakładów finansowych, ale już dziś mogą zmienić sytuację na lepsze.*

Słowa kluczowe: *medyczne kształcenie podyplomowe, reforma edukacji medycznej, „krzywa nauczania”, teczka lekarza stażysty podyplomowego.*

ДОЛЯ О.С., ЯРЕШКО Н.А., МАРУСІЙ А.І. Застосування сучасних цифрових технологій на шляху змін в післядипломній медичній освіті в Україні. *Реформа охорони здоров'я України, яка сьогодні відбувається, інтеграція вітчизняної медичної науки і практики в світову потребують від закладів медичної освіти підготовки сучасних медичних фахівців. Велике значення при цьому відіграє післядипломна медична освіта. Досягнення XXI століття, а саме розгалужені цифрові технології, глобальна мережа інтернет та смартфон у кожного громадянина молодого віку допоможуть в цьому. В основі запропонованої інновації знаходиться «крива навчання», а також розроблений механізм об'єктивізації оцінки набутих навичок та моніторинг їх набуття on-line. Викладені ідеї не потребують значних фінансових затрат, але зможуть уже зараз змінити ситуацію на краще.*

Ключові слова: *післядипломна медична освіта, реформа медичної освіти, “крива навчання”, портфоліо лікаря-інтерна.*

ДОЛЯ О.С., ЯРЕШКО Н.А., МАРУСИЙ А.И. Использование современных цифровых технологий на пути изменений в последипломном медицинском образовании в Украине. *Реформа здравоохранения Украины, которая сейчас происходит, интеграция отечественной медицинской науки и практики в мировую*

требуют от учреждений медицинского образования современных медицинских специалистов. Достижения XXI века, а именно развитые цифровые технологии, глобальная сеть интернет и смартфон у каждого молодого человека могут в этом помочь. Базой предложенной инновации есть "кривая обучаемости" и разработанный механизм объективизации оценки полученных навыков, возможность мониторингования их приобретения on-line. Изложенные идеи не требуют значительных финансовых затрат, но смогут уже сегодня изменить ситуацию к лучшему.

Ключевые слова: последипломное медицинское образование, реформа медицинского образования, "кривая обучаемости", портфолио врача-интерна.

DOLYA OLEH, YARESHKO NELYA, MARUSII ALLA. **Administration of modern digital technologies towards changes in postgraduate medical education in Ukraine.** *The current reform of health care in Ukraine, the integration of local medical science and practice into the global one require that medical educational institutions have to prepare modern medical specialists. Postgraduate medical education plays an important role in this case. The achievements of the twenty-first century, namely developed digital technologies, the Internet and smartphones are able to help every young citizen with this. The proposed innovation is based on the "curve of training", we also developed the mechanism for the objectification of assessment of acquired skills, it can also be used for monitoring of their acquirement on-line. The above mentioned ideas do not require significant financial costs, but will be able to change the situation for the better already.*

Keywords: post-graduate education, reform of medical education, "curve of training", intern's portfolio.