

**Agybayev G. R.**

Republican center of sanitary aircraft of the Ministry of Health of the Republic  
of Kazakhstan

## **EXPERIENCE OF IMPLEMENTATION OF SIMULATE EDUCATIONAL PROGRAMS OF POSTDEGREE TRAINING OF DOCTORS IN URGENT MEDICINE**

The modern technology of imitating modeling (simulation) allows solving a wide range of problems of practical training in medicine of critical states, giving the chance to the specialist to improve the skills within the existing program of post degree education without risks for life of real patients.

For 4 years of work of the simulation center of sanitary aircraft were created, introduced and successfully training courses are implemented on a constant basis.

Now there is a concern of the medical public about the fact that post degree training is often displaced on teaching the theory as the simplest component of training [1].

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Speaking about modern the simulyatsionny educational technologies in urgent medicine and anesthesiology, it is necessary to divide a concept of technology of training in practical abilities and algorithms with use of specialized exercise machines and dummies and a concept of simulation - clinical modeling of critical situations with use of a specialized educational system which main component is the multipurpose computerized dummy of the real patient.

The first means training in a certain practical ability or even group of abilities, to a technique or an algorithm with use of exercise machines or dummies of various degree of complexity.

The main objective of such training - to teach the specialist to work hands, giving it the chance to make concrete practical manipulations, such as intubation, ensuring vascular access, defibrillation and many others.

It is possible to refer to this concept also practical working off of separate techniques and algorithms which becomes possible during practical work on models and allows the doctor to provide in details, to order and remember a necessary operations procedure in a critical situation.

This individual training of the specialist without binding to his work in team which is not demanding reconstruction of realness of the patient, the place of

rendering acute management or an anesthesiology grant and all situation with the patient in general. It, undoubtedly, an important segment of training and it along with others enters the so-called circle of training offered by our foreign colleagues for visual representation of all cycle of continuous postgraduate educational process.

The second concept – simulation in urgent medicine means wider context. The main objectives of simulyatsionny training is training in work with the patient in a critical situation in the conditions as close as possible to in what the specialist usually works. These conditions recreate outward of the real patient and his vital functions (since an opportunity to talk, breathe, reproduce a pulsation on peripheral vessels, sounds, tones, noise of heart, lungs, digestive tract before fixation of indicators on monitors of the real medical equipment). The computer program allows to change parameters of the patient and to create scenarios - clinically to recreate various critical states with which the studying specialist will learn to cope, using the knowledge, analytical skills, clinical experience, practical skills, the necessary medical equipment and personal features.

The main sense of simulyatsionny training in the maximum imitation of all components which can be involved in the real life situation connected with treatment of the patient in a critical situation. The maximum reproduction of the place where events develop has to be provided (it can be the operating room equipped with all necessary, chamber of an intensive care with real beds and neighbors on the right and at the left, the ambulance car equipped according to the approved standards, etc.).

Reconstruction of the psychological moments of the taking place events which are reached by involvement of "actors" – medical students, the staff of medical institution or just volunteers is possible. And, of course, for carrying out simulyatsionny training the team as a part of which the doctor will render acute management or an anesthesiology grant has to be created. It is necessary to remember that one of the main objectives of simulyatsionny training – training in work in team with the colleagues. It allows to learn fast cast and duties, to adoption of own decisions or implicit subordination senior in team and, eventually, to effective and professional solution of the problem which arose at the patient.

Of course, in the course of simulyatsionny training as one of course stages, simpler dummies and exercise machines intended for working off of separate practical skills and algorithms are involved.

But these components are not the main and only help to refresh knowledge and skills of the specialist that then to dip him with the head into the acquaintance to him the professional atmosphere. It gives to the specialist the chance to repeatedly fulfill an integrated approach to treatment of the patient in the difficult, unfamiliar or seldom found in his practical activities clinical situations, without putting at the patient at real risk.

After such training the specialist will find even more confidence in the competence determined by the European fund of education as "the confirmed ability of the individual to use various knowledge, abilities, personal and social abilities in professional situations" (Commission of the European Communities, 2006).

The aforesaid is confirmed by researches of our foreign colleagues which show that the specialists working in medicine of critical states highly appreciate an opportunity to participate in simulyatsionny training. Despite feeling of tension, and sometimes and the real stress during the work with such heavy patient, they prefer to see short-term results of the made treatment, but not just to read about them in textbooks or to listen at lectures. Most of all as shows poll, specialists appreciate an opportunity to make mistakes and to study as them in the safe educational environment [2.3].

This year to the simulyatsionny center of sanitary aircraft 3 years are executed. It was the difficult span filled with search of the adequate technique of teaching adapted to our standards and psychology, forming of team of teachers, the solution of the common organizational problems. In many respects due to enthusiasm and use of personal time, the issue of combination of the main work of our teachers as leading experts of the center of sanitary aircraft with work on creation, final registration and realization ready the simulation of courses on a constant basis was resolved and resolved.

Probably, the center was lucky as from the very beginning of work there was a team of the instructors of the highly professional doctors who are daily practicing and having wide experience of work in the field of medicine of critical states united by one idea.

All instructors are teachers of educational and clinical department which main function – educational activity in the sphere of postgraduate and additional education of doctors.

The most frequent question which sounds at discussion of organizational problems of simulyatsionny training: who and how has to train specialists with use of highly professional simulators in medicine of critical situations? [4.5].

In our country sufficient experience of simulyatsionny training is not accumulated yet, the solution of many questions seems ambiguous, interaction with the foreign simulyatsionny centers in an origin stage.

During training practice of home works when which performing the listener after the end of occupation is offered to write independently one or several scenarios which at the beginning of the 2nd day of training need to be lost with the colleague on a dummy in the simulyatsionny center is used.

It helps the instructor to estimate degree of comprehensibility of knowledge gained on a course, and to cadets – to find confidence that they will cope with

technical sometimes difficult for the doctor, components of simulyatsionny training and will be able to introduce clinical modeling at themselves in workplaces.

The subsequent simulyatsionny courses were developed for vocational education of the anesthesiologists and doctors working in urgent medicine.

Duration of each of these courses – 1 day (8 h), listeners study in groups on 6 people.

Such duration of courses was dictated by requirements of heads of the medical institutions sending the specialists to training who, apparently, are defined by production and financial conditions of their activity. When developing the next courses we consider these requirements and we try to build the program of training so that duration of a course put in so rigid framework did not affect quality of the provided training.

For the same reason and also taking into account that the most part of time of each course is occupied by practice which is important and individual for each cadet, the number of group does not exceed 6 people.

As the first simulyatsionny course for the practicing doctors the one-day course for doctors of linear crews of emergency medical service on one of the most important subjects of urgent medicine – "A cardiac standstill in extra hospital conditions and tactics of urgent measures at the adult patient was developed: modeling of situations".

In terms of simulation it – nearly one of the most active, the courses saturated with practical work. Teaching on it demands the highest tension of professional, pedagogical and human opportunities of each of instructors.

On a course video debriefing which means a possibility of a simulyatsionny system automatically to register all actions of the cadet via the system of sensors and the webcam and to remember this video information with parallel detailed timing is actively used.

These data are used in the subsequent discussion of results of training in group, allowing forming the most objective assessment to actions of each student.

Use of a simulyatsionny system allows to train also in subtleties of inhalation anesthesia and intra operative monitoring of experienced doctors, helps development of new inhalation anesthetics.

We are sure that simulyatsionny training from educational science will surely turn into the standard of applied medicine today-tomorrow, thereby on the whole step having brought closer a solution of the problem of safety of the patient.

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