

# On the history of teaching the course of military field surgery in Russia<sup>1</sup>

Igor V. Karpenko<sup>a</sup>, Maria S. Sergeeva<sup>a</sup>, Viktor G. Belykh<sup>a</sup>, Galina N. Volovchenko<sup>a</sup>, Dmitry V. Gavryuchenkov<sup>a</sup>

<sup>a</sup> *FSAEI HE I.M. Sechenov First MSMU MOH Russia (Sechenov University)  
8 Trubetskaya St., building 2, Moscow 119991, Russia*

**Corresponding author:** Igor V. Karpenko (karpenko.iv@bk.ru)

---

**Received:** 25 October 2018    **Accepted:** 23 November 2018

---

**Citation:** Karpenko IV, Sergeeva MS, Belykh VG, Volovchenko GN, Gavryuchenkov DV (2018) On the history of teaching the course of military field surgery in Russia. *History of Medicine* 5(4): 256–261.

---

## Abstract

A modern military physician can perform their duties at a high professional level only when they are au fait with a complex of military medical disciplines, such as military field surgery, military hygiene, organisation and tactics of medical service and some others, along with general medical knowledge. Back in his time, our great fellow countryman N.I. Pirogov described war as a “traumatic epidemic”. Hence the importance of knowledge of military field surgery for a military physician, which is difficult to overestimate. This article presents the historical picture of the introduction of issues of military field surgery, first in hospital schools, then at the Saint Petersburg Medical and Surgical Academy (MSA), and then, during Soviet times, at the S.M. Kirov Military Medical Academy (the Military Medical Academy of the Workers’ and Peasants’ of the Red Army). It is shown that particular issues of military surgery were sporadically taught in hospital schools since the 18th century. Usually, it would happen on the brink of or during military conflicts, and the students attending would be graduates of hospital schools going to the front. First, particular issues of military surgery can be found in the programme of the Department of Theoretical Surgery of the Saint Petersburg MSA introduced by Professor P.A. Dubovitsky in 1844. The next stage was the establishment in the academy in 1869 of the first independent course of military field surgery which was addressed to military physicians who were annually seconded to the academy for improvement in military field surgery. Since 1879, this course was also studied by students of the Saint Petersburg MSA. The opening in the Academy in 1936 of the first independent Department of Military Field Surgery in the USSR, headed by the well-known scientist and surgeon V.A. Opiel, can be considered the completion of the development of the teaching of this academic discipline.

---

## Keywords

history of surgery, military medical education, military field surgery, medical specialty, medical education

---

Knowledge of the issues of military surgery is a prerequisite for the practical work of a physician during military operations – it is not coincidental that “in a coherent system of organisation of medical support for troops, the role of field surgery is unanimously recognised as a priority” (Aleksanyan and Knopov 2000, p. 10).

In the 18th century in Russia, the training of military medical personnel was carried out mainly in hospital schools, and in the 19th and 20th centuries it was car-

ried out in the Saint Petersburg Medical and Surgical Academy.<sup>2</sup>

Heads of medical schools completely understood the importance of knowledge of surgery for a future military physician. The founder of the first hospital school in Russia, N. Bidloo, in his *Manual of Surgery (Instructio de chirurgia in theatro anatomico studiosis proposita a.d. 1710, januarii die 3)*, cited information regarding treatment of wounded people with combat injuries

---

<sup>1</sup> Supported by The Russian Academic Excellence Project.

<sup>2</sup> Military Medical Academy since 1881, now – the S.M. Kirov Military Medical Academy.

(particularly with gunshot fractures of the extremities) (Khmyrov 1869). N. Bidloo was a good surgeon and paid special attention to studying anatomy and surgery at a hospital school (visual aids and anatomical preparations were used for better perception).

This information and knowledge became most indispensable during the war (Semeka 1948). In the 18th century, the students would often go to the theatre of war as junior doctors. It is known, for example, that during the Russo-Turkish war of 1735–1739, up to a third of the students of the hospital schools at the Saint Petersburg Admiralty Hospital were sent to the fleet (Karpenko 2012). At the same time, the leaders in charge of domestic healthcare issues understood well that future military physicians should have practical skills in providing medical care during military operations. So, the chief physician of the Admiralty Hospital and school teacher Calderwood was instructed to deliver a “special course of applying bandages” to the students who were sent to the active army (Chistovich 1883, p. 247).

The course of surgery which was taught in hospital schools was called “manual surgery” and presupposed mainly an acquaintance with operational techniques, desmurgy and dislocation treatment (Stochik et al. 2001). In the course of study, students attended operations that were carried out not only on corpses, but also on living people. Each student was given the opportunity to independently carry out several operations on corpses (Palkin 1959). Schooling was not limited to the mastery of operational techniques; the information on the indications for surgery was given before each operation. As a result, school graduates had a good operational practice, evidenced by the operations they had to conduct independently at their final examination. For example, during examinations they would perform operations such as amputation, trepanation, thoracocentesis, and some others.

In 1786, hospital schools were transformed into medical and surgical (iatric) schools. The schools’ staff schedules were separated from the staff of the hospitals which housed the schools. Teachers received the title of professors. It is characteristic that amongst the first few, we see professors of anatomy and surgery amongst the schools’ staff. Despite that, questions regarding such an important part of surgery as the provision of surgical assistance during the war, and which basically constituted a course of military field surgery (MFS), were not made into a separate course. The establishment of the Saint Petersburg Medical and Surgical Academy (MSA) in 1798 hardly changed the state of affairs which mostly remained the same for the first few decades of the 19th century.

So, during this earliest stage (from the 18th century until the 1840s), the foundations of the teaching of military field surgery in the country were formulated. The fact that the particular issues of military field surgery

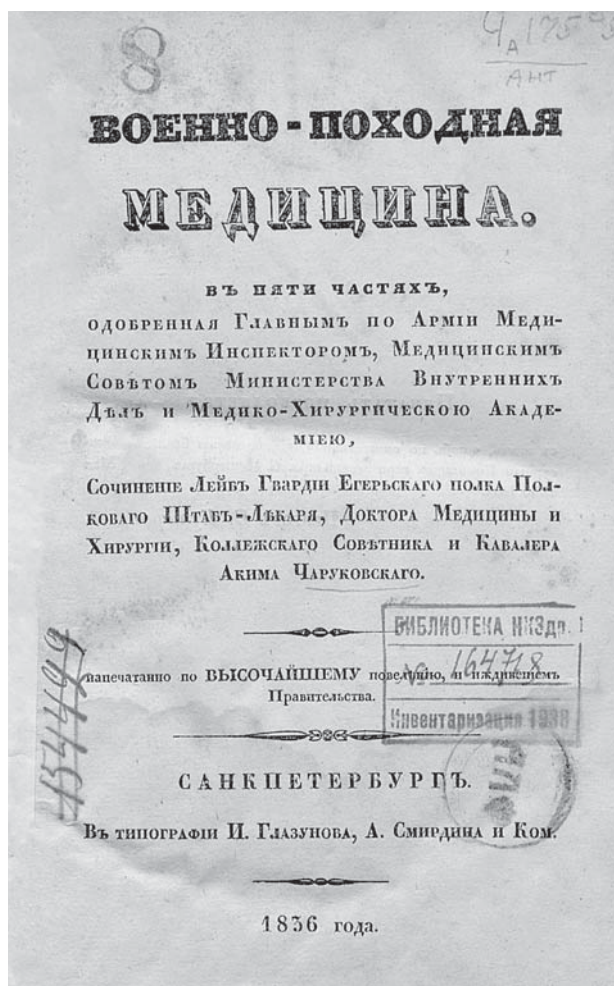
were read occasionally, mainly on the brink or during military conflicts, to the doctors going to the theatre of war, was a characteristic feature of this stage (Karpenko 2012). Systematic teaching of such information was not accounted for by the education programme during this period.

The situation began to change in the 1840s. In 1844, the professor of the Department of Theoretical Surgery P.A. Dubovitsky compiled a programme for this academic discipline. In the classification of surgical diseases, one of the classes was named “Wounds and bruises”. Here, P.A. Dubovitsky suggested also considering issues such as “the weapons used in the modern art of war with regards to injuries caused by them. The description of substance, form, strength and mode of action of the weapon for every class. Piercing, cutting, simultaneously piercing and cutting weapons, <...> heavy firearms, bullets, pellet, shots, buckshot – shells fired from firearms, the action of gunpowder...” (Lopatto 1898, p. 54). The classification also offered a broad overview of the damage caused by different types of weapons. The analysis of gunshot wounds was detailed; for example, it scrutinised simple (uncomplicated) gunshot wounds, wounds with bone damage, wounds with damage to blood vessels, wounds with damage to the nerve trunks and joints, combined gunshot wounds. Professor P.P. Zablotsky-Desyatovsky, who succeeded P.A. Dubovitsky, continued the activities of his predecessor in this direction. In the report of the Conference of the Academy (1856), he cites information about the lectures he delivered for the period from the 1st of March 1855 to the 1st of March 1856. In his lectures he separately examined “wounds in general and in particular: stab wounds, cut wounds, bruises and bruised wounds, gunshot wounds, avulsions, bites” (Lopatto 1898, p. 73). These questions subsequently constituted a course of military field surgery.

Professor P.P. Zablotsky-Desyatovsky understood the importance of military field surgery for military physicians well and was a supporter of graphicness in the teaching of this discipline. In 1862, he appealed to the Conference of the Academy with a request to let him go on a trip abroad to get acquainted with the teaching of military field surgery in European institutions and to purchase exhibits for the museum. The museum created by him was clearly military-medically oriented. Its exhibits were arranged in the following order: 1) dressing equipment; 2) military field first aid kits; 3) multifarious bandages; 4) surgical instruments (Lopatto 1898, p. 79).

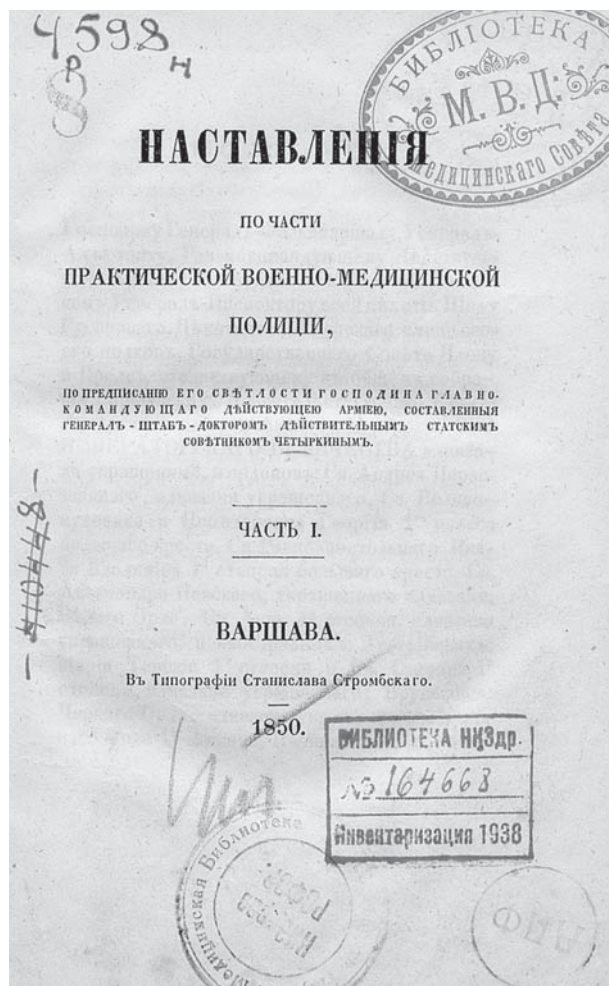
When the museum exhibits were being compiled in 1863, samples of melee weapons (sabres, spikes, etc.) and stretchers for transporting the wounded were donated by the Saint Petersburg Arsenal (Kudryashov 1898).

In presenting information on military field surgery, data from both foreign military medicine and the works



**Fig. 1.** Title page of the A. Charukovsky's "Military Field Medicine" (Saint Petersburg, 1836)  
Fund of the Central Scientific Medical Library of the I.M. Sechenov First MSMU.

of domestic authors were used. In Russia, the works of Dominique Jean Larrey, Pierre-François Percy and Guillaume Dupuytren were well-known. At the same time, works by domestic authors summarising the experience in providing medical care during military operations, gained by Russian military physicians in the 18th century and the first half of the 19th century, started to appear. Those were A. Charukovsky's Military Field Medicine (1836; Fig. 1), R. Chetyrkin's The Experience of the Military Medical Police, Or Rules for the Healthcare of the Russian Soldiers of the Land Forces (1834) (Chetyrkin 1834) and Lectures on the Part of the Practical Military Medical Police (1850; Fig. 2). Even before the discovery of antiseptics (the antiseptic method was discovered by J. Lister in 1867), Russian military surgeons intuitively came close to understanding the basics of this method and strived to keep medical rooms clean. So, for example, A. Charukovsky specified: "After bandaging the wounded, especially in hospital, used and wet dressings should be removed from the room as soon as possible, bed linen soiled with pus should be



**Fig. 2.** Title page of the R. Chetyrkin's "Lectures on the Part of the Practical Military Medical Police" (Warsaw, 1850)  
Fund of the Central Scientific Medical Library of the I.M. Sechenov First MSMU.

changed right away, and the wounded member should be laid on an oilcloth" (Charukovskiy 1834, p. 36). Methodologically, the indications for amputations can be considered justified even from the modern point of view. For example, A. Charukovsky recommended removing the tissue affected with gangrene, preserving the healthy tissue. When removing a foreign body he would warn about the possibility of a haemorrhage. When stitching up a wound, it was recommended not to put a solid suture, but to leave a hole for the discharge of pus. Small vessels bleedings were recommended to be stopped by cauterisation with a hot iron, and large vessels bleedings were to be ligated (Charukovskiy 1834).

So, regarding the 1840s, we can speak of the second stage of the study of MFS. During this time began the systematic teaching of the particular issues of this discipline, set in the training programme for future military physicians.

The opening of an independent course of military field surgery, established in the Saint Petersburg MSA in 1869 and combining particular issues in this disci-

pline, was the beginning of the third stage in the history of teaching military field surgery. It was intended for military physicians seconded to the academy annually for advanced training in surgery. The Chief Military Medical Inspector of the Russian Army informed the Conference of the Academy that “for this purpose, twenty-five doctors will be assigned to the Academy every year” (Ivanovskiy 1898, p. 605). By decision of the Conference of the Academy in October 1870, special courses on military field surgery and surgical anatomy were established for this purpose. In 1872, in his report to the Military Council, the Chief Military Medical Inspector noted that “the main purpose of the secondment of these physicians is to properly familiarise each of them with conduction of the main operations encountered during wartime under direct supervision of a professor”.<sup>3</sup> The academy professors A.A. Kiter and V.L. Bogdanovsky were chosen by the Military Medical Scientific Committee for teaching the course, and V.A. Gruber performed the duties of the prosector. Initially, teaching only involved practical lessons that were conducted in academic and hospital surgical clinics (Ivanovskiy 1898). In 1870, when the teaching programme was approved, the lecturing began.

Thus, 1869 can be considered the beginning of the history of teaching the course of military field surgery in Russia. For quite a while (ten years) it was addressed only to military physicians. For the students of the Academy, the teaching of military field surgery began in 1879 when V.N. Popov presented the programme of military field surgery and desmurgy. It was reviewed and approved by professors of the Academy and famous scientists N.V. Sklifosovsky and I.N. Kolomnin. On the 13th of October 1879, permission was granted to deliver lectures on military field surgery to the 4-year students of the Academy (“On Thursdays from 2 to 3 hours” (Kudryashov 1898, p. 63)). This course was delivered by V.N. Popov (and by the adjunct professor I.G. Karpinsky, later<sup>4</sup>), who had experience in providing medical assistance at the front. From May 1877 to February 1878, he was in the Balkans<sup>5</sup>, and during this campaign he oversaw the Red Cross squad, participated in battles seven times and, working at the advanced dressing stations (ADS), performed over two hundred serious operations. From 1891, professor E.V. Pavlov began

to read the course of military field surgery. He also compiled the programme of his course, which at that time became mandatory. E.V. Pavlov filed a petition to the Conference of the Academy on the inclusion of a course of military field surgery in the number of compulsory subjects studied at the Academy, several times. His requests weren’t satisfied due to the fact that, in the opinion of the heads of the Academy, “certain subjects, which are part of the intended field military medical profession, are already delivered in sufficient volume at various surgical departments of the Academy” (Kudryashov 1898, p. 86). This was true. So, for example, the Department of Mechanurgy and Desmurgy in 1895 studied issues such as “a) first aid delivery, transfer of wounded from the battlefield, dressing stations equipment and transportation; b) the study of the mechanisms of injuries sustained during war and the related to it study of modern weapons used in the European armies; c) the acquaintance with the general law of the military sanitary matter” (Kudryashov 1898, p. 117).

During this period, part of the issues related to military field surgery was studied at the Department of Surgical Pathology and Surgery. In 1898, the professor of this department, M.S. Subbotin, suggested including the following points in the programme for the discipline: “a.34. Gunshot wounds, their origin. Basics of ballistics. Action of firearm projectiles. Impact and hydraulic theory. Characteristics of gunshot wounds. Sterility of gunshot wounds. Classification of gunshot wounds; a.35. Study of gunshot wounds. Healing of gunshot wounds; a.36. Removal of foreign bodies. Treatment of gunshot wounds during peacetime and wartime. Dressing stations and transport” (Lopatto 1898).

In addition, the refusal of the Conference to introduce an independent course in military field surgery was also explained by the fact that a very small number of students of the Academy would become military physicians. So, for example, in 1881, only 15% of all students of the Academy were scholars of the military department (Shelepov and Kryuchkov 2009).

During the first years of the Soviet regime, a course of military field surgery was being delivered at one of the surgical departments. The decision of the Conference of the 8th of November 1919 regarding the course of military field surgery noted: “...The latter discipline has not yet been represented in the Academy by an independent department or a separate clinic; the lecturing of the students is delegated by the Conference to either one of the surgeon professors, or one of the teachers of the same speciality”.<sup>6</sup> A little bit later (November

<sup>3</sup> Russian State Military History Archive (RGVIA). F. 546. I. 3. C. 148. On the inclusion in the course of subjects taught to military physicians assigned to the study of military field surgery, desmurgy and mechanurgy, and on the allocation of monetary remuneration for the teacher.

<sup>4</sup> RGVIA. F. 316. I. 39. C. 183. The case on the remuneration of the adjunct professor Karpinsky for delivering lectures on desmurgy and mechanurgy to military physicians.

<sup>5</sup> The Balkan War – the Russo-Turkish War of 1877–1878.

<sup>6</sup> RGVIA. F. 24703. I. 1. C. 273. Extract from the minutes of the meeting of the Conferences of the Academy. Report on the work of a private docent Zaretsky and correspondence on educational issues.

1923), it was remarked upon in a note presented by the Head of the Academy V.N. Tonkov, that “Thus, to this date, on the military field surgery issue, the Academy only has the full-time professorial staff (with no clinic) replaced by professor R.R. Vreden”.<sup>7</sup> Since 1924, the course of field surgery was taught at the Department of Orthopaedics (Brevdo 1929). The lectures were delivered by E.Y. Osten-Sacken (private docent since 1925) (Antipenko and Gumanenko 2001). He also owns the Short Course on Military Field Surgery based upon the experience of the First World War.

Changes in historical conditions – the use of new types of weapons (automatic, chemical), the mechanisation of troops, the increase of their manoeuvrability – greatly complicated the task of providing the army with medical support. This required a qualitatively new approach to the study of military field surgery.

In 1930, the Military Medical Academy was inspected. In the resolution of the Revolutionary Military Council of the 2nd of April 1931, it was noted from its results: “The clinics don’t pay enough attention to diseases of current importance to the Red Army. The skills in the provision of immediate medical care (emergency surgery) are not sufficiently inculcated in the students”.<sup>8</sup>

To remedy the situation, the Revolutionary Military Council suggested “reconsidering, from the point of view of rationalisation and militarisation” the teaching

trade and “creating new departments of field surgery with traumatology instead of orthopaedics”.<sup>9</sup>

In the post-revolutionary period, there was a department in the Military Medical Academy of the Workers’ and Peasants’ Red Army called the Department of Military Field Surgery, Orthopaedics and Desmurgy. It was headed by G.I. Turner, a famous Russian scientist whose interests mainly concerned orthopaedics. The attention paid to the issues of military field surgery was insufficient. In this regard, the creation of a fundamentally new, independent department, designed to teach only about military field surgery, was discussed. By order of the head of the CMCD (Chief Military Construction Directorate), the first independent Department of Military Field Surgery, headed by the famous Russian scientist and surgeon V.A. Opiel, was opened at the Academy. This became a significant event in the history of both the Military Medical Academy and the medical education of military physicians in general.

Thus, several stages can be distinguished in the history of teaching military field surgery in Russia. The first of these periods covers the 1700–1840s. During that time, military physicians were taught particular issues of the MFS, not set by the education programme. During the second period (1840s–1869), the teaching of issues of military field surgery became systematic and the training was set by the programme. During the third stage (1869–1931), this discipline was isolated as an independent course. The establishment in 1931 at the Military Medical Academy of the first Department of Military Field Surgery indicates the completion of the formation stage of the military field surgery course in our country and the beginning of its systematic teaching as part of the training of medical specialists.

<sup>7</sup> RGVA. F. 24703. I. 1. C. 166. Extract from the protocol and the memorandum of the President of the Academy on the establishment of the Department of Military Field Surgery, the project of the organisation of a trauma clinic.

<sup>8</sup> RGVA. F. 4. I. 1. C. 20. Minutes of the meeting of the Revolutionary Military Council of the USSR for January–June 1931. Nos. 1–24.

<sup>9</sup> Ibid.

## References

- Aleksanyan IV, Knopov MSh (2000) *Voenno-polevaya khirurgiya v gody Velikoy Otechestvennoy voyny* [Military field surgery in the years of the Great Patriotic War]. Moscow: Meditsina. 264 p. (In Russ.)
- Antipenko VS, Gumanenko EK (2001) *Pervaya samostoyatel'naya kafedra voenno-polevoy khirurgii* [The First independent chair of military-field surgery]. Saint Petersburg. 48 p. (In Russ.)
- Brevdo IS (1929) *VSA nauchno-issledovatel'skaya deyatelnost za 1918–1928 gg.* [ICA research activities during 1918–1928]. Moscow. 369 p. (In Russ.)
- Charukovskiy A (1834) *Voenno-pokhodnaya meditsina* [Military camp medicine]. Saint Petersburg. 94 p. (In Russ.)
- Chetyrkin R (1834) *Opyt voenno-meditsinskoy politzii, ili pravila k sokhraneniyu zdorovya russkikh soldat v sukhoputnoy sluzhbe* [The experience of the military-medical police, or the rules for the preservation of the health of Russian soldiers in the land service]. Saint Petersburg. (In Russ.)
- Chistovich Ya (1883) *Istoriya pervykh meditsinskikh shkol v Rossii* [History of the first medical schools in Russia]. Saint Petersburg. 662 p. (In Russ.)
- Ivanovskiy NP (1898) *Istoriya Imperatorskoy Voenno-Meditsinskoy Akademii 1798–1898* [The History of The Imperial Military Medical Academy 1798–1898]. Saint Petersburg. P. 605. (In Russ.)
- Karpenko IV (2012) *Gospitalnye shkoly v period Russkoturetskoy voyny 1735–39 gg.* [Hospital schools during the Russo-Turkish war of 1735–39]. *Voenno-meditsinskiy zhurnal* [Military-medical journal] 9: 87–89. (In Russ.)
- Khmyrov MD (1869) *Russkaya voenno-meditsinskaya starina (1612–1762)* [Russian military medical old (1612–1762)]. *Voenno-meditsinskiy zhurnal* [Military medical journal] 54(7): 40–43. (In Russ.)
- Kudryashov AI (1898) *Istoricheskiy ocherk kafedry desmurgii i mekhanurgii pri IVMA* [A historical sketch of the Department of desmurgy and machinery when IWMA]. Saint Petersburg. 127 p. (In Russ.)

- Lopatto KE (1898) Kafedra khirurgicheskoy patologii i khirurgii 1798–1898 gg. Materialy dlya ee istorii [Department of surgical pathology and surgery 1798–1898. The Materials for its history]. Saint Petersburg. (In Russ.)
- Palkin BN (1959) Russkie gospitalnye shkoly v XVIII veke [Russian hospital schools in the 18th century]. Moscow: Medgiz. 272 p. (In Russ.)
- Semeka SA (1948) Meditsina voennaya [Military medicine]. Entsiklopedicheskiy slovar voennoy meditsiny [Encyclopedic dictionary of military medicine]. Vol. 3. Moscow: Gosudarstvennoe izdatelstvo meditsinskoy literatury. Col. 713–915. (In Russ.)
- Shelepov AM, Kryuchkov OA (2009) Ot kafedry voennykh i voenno-sanitarnykh distsiplin – k kafedre organizatsii i taktike meditsinskoy sluzhby [From the department of military and military-care disciplines – to the Department of organization and tactics of medical service]. Voennno-meditsinskiy zhurnal [Military medical journal] 10: 82–90. (In Russ.)
- Stochik AM, Paltsev MA, Zatravkin SN (2001) Meditsinskiy fakultet Moskovskogo universiteta v reformakh prosveshcheniya pervoy treti XIX v. [Medical faculty of Moscow University in the reform of education first third of the 19th century]. Moscow: Shiko. 368 p. (In Russ.)

## About the authors

- Igor Vladimirovich Karpenko – Candidate of Medical Sciences, Associate Professor at the Department of Life Safety and Catastrophe Medicine, FSAEI HE I.M. Sechenov First MSMU MOH Russia (Sechenov University), Moscow. Email: karpenko.iv@bk.ru
- Maria Sergeevna Sergeeva – Candidate of Historical Sciences, Associate Professor at the Department of Human Studies, Institute of Political Science, FSAEI HE I.M. Sechenov First MSMU MOH Russia (Sechenov University), Moscow. Email: serma@list.ru
- Viktor Germanovich Belykh – Doctor of Medical Sciences, Professor at the Department of Life Safety and Catastrophe Medicine, FSAEI HE I.M. Sechenov First MSMU MOH Russia (Sechenov University), Moscow. Email: viktor.belykh@mail.ru
- Galina Nicolaevna Volovchenko – Lecturer at the Department of Life Safety and Medicine of Disasters, FSAEI HE I.M. Sechenov First MSMU MOH Russia (Sechenov University), Moscow. Email: volovchenkogn@mail.ru
- Dmitry Valerievich Gavryuchenkov – Candidate of Medical Sciences, Associate Professor at the Department of Life Safety and Medicine of Disasters, FSAEI HE I.M. Sechenov First MSMU MOH Russia (Sechenov University), Moscow. Email: gaverdv@list.ru