

## CONNECTING LINKS OF HISTORY. Yaroslavl and Sergey Spasokukotsky

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Biography of Sergey Spasokukotsky, the outstanding Russian surgeon, is closely related to the Yaroslavl Territory. He spent his childhood in the Danilovsky region, coming from a large and friendly family of a zemstvo doctor. In 1880–1888, he studied at the Men's Gymnasium after his family had moved to Yaroslavl. The building now belongs to the Yaroslavl State Medical University where a representative of his scientific school, Professor Busalov AA, worked decades later. Life and activity of Sergey Spasokukotsky represent a bright example of unselfish service to medicine. Being a graduate of the Emperor's Moscow University, he had a chance to continue his medical career in Moscow but went to the province where he worked as a zemstvo doctor for many years, actively implementing advance achievements of medicine into abdominal surgery, neurosurgery, pulmonary surgery, creating novel and modifying available surgeries. S. Spasokukotsky and his student developed an affordable and effective method of preparing a surgeon's hands for a surgery with 0.5% ammonia solution (method by Spasokukotsky and Kochergyn). The scientific and practical activities of Sergey Spasokukotsky resulted in the development of a large scientific school with an ultimate scientific social responsibility, originality, great depth and boldness while solving the issues of surgical pathology.

**Key words:** Sergey Spasokukotsky, zemstvo medicine, surgery, asepsis and antiseptics, Yaroslavl State Medical University

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## ИСТОРИИ СВЯЗУЮЩИЕ НИТИ. ЯРОСЛАВЛЬ И СЕРГЕЙ ИВАНОВИЧ СПАСОКУКОЦКИЙ

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Биография выдающегося отечественного хирурга Сергея Ивановича Спасокукоцкого тесно связана с Ярославским краем. Здесь, в Даниловском районе, в большой и дружной семье земского врача прошло его детство. После переезда семьи в Ярославль, в 1880–1888 гг. он обучался в мужской гимназии. Здание, где она размещалась, ныне принадлежит Ярославскому государственному медицинскому университету, в котором десятилетия спустя работал один из представителей его научной школы — профессор А. А. Бусалов. Жизнь и деятельность С. И. Спасокукоцкого являются ярким образцом бескорыстного служения медицине. Выпускник Императорского Московского университета, имевший возможность продолжить врачебную карьеру в Москве, он уехал в провинцию, где многие годы работал земским врачом, активно внедряя передовые достижения медицины в абдоминальную хирургию, нейрохиргию, легочную хирургию, создавая новые и модифицируя уже практикующиеся операции. С. И. Спасокукоцкий совместно со своим учеником разработал доступный и эффективный способ подготовки рук хирурга к операции с помощью мытья 0,5%-ным раствором нашатырного спирта (способ Спасокукоцкого–Кочергина). Итогом научно-практической деятельности С. И. Спасокукоцкого стало создание большой научной школы, отличающейся предельной научной добросовестностью, оригинальностью, большой глубиной и смелостью в решении вопросов хирургической патологии.

**Ключевые слова:** С. И. Спасокукоцкий, земская медицина, хирургия, асептика и антисептика, Ярославский государственный медицинский университет

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Sergey Spasokukotsky was one of the most outstanding Russian surgeons whose biography is closely connected with the city of Yaroslavl. A plaque bearing his name decorates the facade of the main building of the Yaroslavl State Medical University. 'Sergey Spasokukotsky, Academician of the Academy of sciences of the USSR, Laureate of the State Youth Award, studied here, at the former Men's Gymnasium, in 1880–1888'.

In 50 years, his student, one of the brightest representatives of Spasokukotsky Surgical School, Professor Aleksey A. Busalov, M.D., recognized by the biographical commission of the Dmitrovsky region as the 'Best XX Century Citizen of the Dmitrovsky region in the "Doctor" nomination' will be working at the building. In 1938–1947, Busalov AA was the head of the medical and sanitary management of the Kremlin. While working in Yaroslavl for some years, he emerged as a wonderful organizer, academic advisor, and experienced surgeon.

Sergey Spasokukotsky was born on June 10, 1870, in Kostroma, an old Russian city, in the family of

Ivan V. Spasokukotsky, who was a zemstvo doctor. His grandfather was a rural parson of Spasskoye village on the Kukot river. This is where the original surname originated from. His father owned the Smyslovo estate (Danilovsky district) in the Yaroslavl province. The estate was inherited from his wife who died early of tuberculosis but managed to give birth to four children during a very short and happy period of their family life. The family spent every year in Smyslovo. In 1874, his father retired and settled in Yaroslavl surrounded by his family. Initially, they used to rent an apartment on the Volga embankment and then moved to the center of the old city (Ushinskogo Str., 12) that preserved to this day.

When Sergey was nine years old, he studied at the Men's Gymnasium, which was in 1880 relocated to the place where now the main building of the Yaroslavl State Medical University is placed. Reports of academic achievements are held in the State Archive of the Yaroslavl Territory. Some of them have been there since the college years of Spasokukotsky. It should be noted that Sergey has had an excellent academic performance since the very beginning of studying at the

gymnasium. The magazine had a specific rating of students. Thus, Spasokukotsky had the best success and diligence in a class of 44 [1]. Popovich PP, Associate Professor of the department of morbid anatomy who studied biography of Spasokukotsky and documents of the Yaroslavl Archives and Moscow University wrote as follows: 'the available data make it possible to conclude that in junior school Sergey had a clear predominance of excellent grades. After the fourth year of education, good and satisfactory grades appeared. A high school certificate is being kept in documentary funds of the Moscow University. It contains no satisfactory grades, three excellent grades, whereas all the other grades were good. His behavior was commonly excellent' [2]. In different years, the gymnasium was completed by Sergey's brothers — Nikolay (1887) and Vladimir (1891).

The example of his father who has devoted his entire life to zemstvo medicine was defining in Sergey's profession. In 1888, he entered the Medicine Faculty of the Moscow Emperor's University. During that time, its teachers were outstanding scientists, doctors who left a bright trace in the history of higher medical institution and history of Russian medicine such as anatomist Zernov DN, surgeons Sklifosovsky NV, Bobrov AA, Dyakonov PI, bacteriologist Gabrichevsky GN, therapists Eltsynsky VI, Golubov NV, botanist Timirzyaev KA, pediatrician Filatov NV, neurologists Kozhevnikov AY and Darkshevich LO, psychiatrist Korsakov SS, therapist Zakharyin GA, hygienists Erisman FF, Ignatyev VE, etc.

The system of preparation used at the medical faculty of the Moscow University in the second half of the XIX century taught students the art of medical science. The reform of clinical teaching that introduced three consecutive and closely interrelated stages of clinical preparation (propedeutic, theoretical, hospital) played a decisive role in this. Their step-by-step mastering made it possible for students to study the basis of clinical medicine and acquire own experience of medical practice. As soon as the University has been graduated, they were ready for the practice [3].

In summer 1893, on the eve of state graduation exams, Sergey Spasokukotsky became part of the Red Cross detachment struggling with the epidemic of typhus that raged in many Russian villages. In the end of the XIX century, Russia was one of the first countries in the world in terms of the prevalence of typhus. The disease was mainly developed among the poor. Spasokukotsky became ill with typhus while saving patients. As a result, he passed his graduation exams only after he had recovered in autumn 1893. The mediciner oath signed by Spasokukotsky SI is of interest. It is similar to the up-to-date medical oath, and until 1917, all graduates of the medical faculty were called 'mediciners'.

'Accepting the rights of a doctor with deep appreciation and understanding the importance of obligations incumbent upon me with the title, I promise not to darken the honor of the profession I am now becoming a part of. I promise to help those suffering at any time; keep family secrets sacred and not to misuse the trust I've been given. I promise to continue studying medicine and contribute to its prosperity informing the men of science of anything that will be discovered by me. I promise not to make and sell any secret preparations. I promise to be just to my colleagues and not insult their personalities; however, if a patient's benefit requires so, I can tell truth directly and impartially. In essential cases, I promise to follow the advice of doctors who are more educated and experienced; whenever I am summoned for a meeting, I will remember about their merits and efforts' [4].

By the Decision of Professor Council, S. Spasokukotsky was left at the University as a Supervising Resident of the Hospital

Surgical Clinic of Prof. Levshin to prepare for subsequent scientific activity. Its academic advisor was an extraordinary personality. He worked at Saint-Petersburg Medical Academy, had internship abroad, was both professor and dean of the medical faculty of the Kazan University, and participated in the Russo-Turkish War. In 1893, when S. Spasokukotsky graduated from the University, Prof. Levshin was shifted to the Moscow University as full-time Professor of hospital surgery department and Director of Hospital Surgical Clinic. In 1903, when Levshin LL retired, he used his private contributions to establish the Institute to study ways of cancer treatments (it is called P. A. Herzen Moscow Oncological Research Institute today) [5].

Sergey spent three busy years working on the thesis. He acquired the skills of independent work as a surgeon outside the clinic. A young surgeon had no conditions for development there. No payment was offered for the part-time residency, and he had to search for earnings. While working on the thesis, he also applied for the seasonal job (May-September) of a doctor at the Arkhangelsk Railroad that was under construction. Here, an extensive field of medical practical activity could be covered as surgeons, infectious disease doctors, therapists, traumatologists and administrators were in need.

In 1897, S. Spasokukotsky went to the Greek-Ottoman War as part of Red Cross detachment consisting of some former clinical residents and leading lights in medicine (Sklifosovsky NV, Bobrov AA and Levshin SI). We still have his letters where tough events of those times were described. He used the methods of aseptics, antiseptics, and 8-shaped removable sutures, which subsequently became part of the surgical practice.

Having returned from the front in September 1897, S. Spasokukotsky decided to go to Smolensk where he worked as a surgeon at the provincial zemstvo hospital. He also completed his MD thesis entitled 'Osteoplasty in limb amputations' that was successfully defended in 1898. S. Spasokukotsky's thesis was printed in a Smolensk typography and contained 158 pages of text with tables and photos. During the practice, he came back to the topic many times [6].

S. Spasokukotsky worked at Smolensk zemstvo hospital from 1897 to 1911. Having an outstanding organizational skill, he could rebuild the entire surgical work actively implementing the novel achievements of medicine (antiseptics and aseptics) into practice. This allowed to perform herniotomies, which were seldom used before due to a large number of complications. During the 1st Congress of Russian Surgeons (1900), S. Spasokukotsky reported 257 herniotomies performed at his clinic, and 623 cases of herniotomy done in two years (during another Pirogov Congress) [7].

When the Russo-Japanese war started, S. Spasokukotsky headed the Red Cross detachment and went to the Far East following the call of the heart. He operated and took care of the wounded and acted as a surgeon for the local people. He wrote as follows: 'The view of the badly wounded people makes you forget yourself. You try to be useful. Yesterday, for instance, I spent the entire evening shaving and washing the patients (they were very dirty and covered with parasites)... The useless and dark war is a nightmare just as the forces that have involved us in it' [8].

Having returned from war in 1905, S. Spasokukotsky immersed himself in the work. Being a surgeon of a provincial zemstvo hospital, he actively developed surgery of stomach diseases, familiarized doctors with the original view on a widely distributed pathology of those times (ileus) stating that it is a hungry person's disease.

The talented surgeon became widely known to the Russian medical community. It is no surprise that he was invited to be the head of the department of operative surgery and regional anatomy in 1911, and department of hospital surgery of the Saratov University in 1913. During that period, he was actively working almost in all fields of surgery (abdominal surgery, neurosurgery, pulmonary surgery) establishing new and modifying already existing operations. S. Spasokukotsky developed an affordable and effective way of preparing a surgeon's hands for an operation with 0.5% ammonia solution (the method of Spasokukotsky-Kochergin). He was the first person who used a blind suture after the surgical treatment of wounds in the skull and abdomen and skeletal extension while treating fractures. During the First World War, he was the head of three departments of the Saratov University, delivered three lecture courses, and had surgeries in two clinics and a war hospital. Having accepted the socialistic revolution without any hesitation, he organized a hospital in Saratov in 1918 to treat the wounded Red Army soldiers making it possible for them to return to work. He also became the first director of the hospital. In 1945, the Research Institute of Traumatology and Orthopedics was established on the basis of the hospital [9].

S. Spasokukotsky has been the head of the faculty surgical clinic of the 2nd Moscow Medical Institute and surgical sector of the Central Institute of Blood transfusion since 1926 until his last days of life. He has been the main surgeon of the Kremlin Medical and Sanitary Administration since 1937. His contribution

to the development of organization and popularization of blood transfusion is invaluable. The developed methods of blood conservation and transportation were successfully used during the Great Patriotic War. They allowed to save hundreds of thousands of human lives.

His well-deserved awards such as Honored Worker of Science of the RSFSR (1934), Recipient of an Order of Lenin (1939), Order of the Red Banner of Labor (1943), and Winner of the Stalin Prize for Surgery and Work Entitled Activinomycolysis of the Lungs (1942) were testimony of the highest mastership, service to the Motherland and its people. In 1942, S. Spasokukotsky was elected Academician of the Academy of Sciences of the USSR. He died in 1943. However, hundreds of saved patients and a large scientific school that continued developing his ideas (Bakulev AN, Berezov EL, Busalov AA, Bogoslovsky VR, Gerasimov NV, Golubev NV, Braitsev VYa, Vinograd-Finel FR, Galpern YaO, Grozdov DM, Gulyaev AV, Zhmur VA, Zaitsev GP, Kazansky VI, Kocherin IG) [10] were his legacy.

In 1948, an editorial board consisting of Bakulev AN, Busalov AA, And Kochergyn IE produced a two-volume edition of essay collection entitled 'The Essays of Academician S. Spasokukotsky' embracing the most essential scientific papers of his. The edition occupies a worthy place at the museum exhibit of the Yaroslavl State Medical University, whereas well-worn pages and completely filled in forms show that the volumes are still popular among surgeons.

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