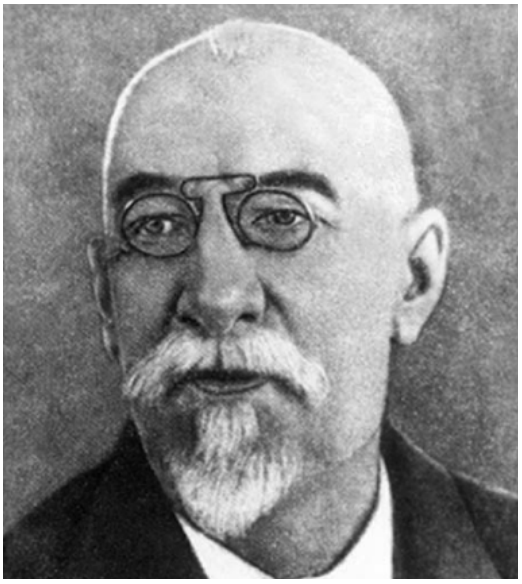
UDC 617(092)
DOI http://doi.org/10.30978/GS-2022-2-6

ISSN 2786-5584 print
ISSN 2786-5592 online

Professor Oleksiy Petrovych Krymov. An outline of the professional and scientific path of an outstanding surgeon

The article highlights the professional and scientific path of Professor Oleksiy Petrovych Krymov — professor of surgery and head of the Department of Faculty Surgery of the Kyiv Medical Institute.

The challenge of leadership
is to create change and facilitate growth
John Maxwell



At the end of 1929, Oleksiy Petrovych Krymov (1872—1954) was appointed head of the Department of Faculty Surgery. He had extensive pedagogical, clinical, and scientific experience that he acquired while working as an associate professor at the surgical clinic of Moscow University run by Professor M. I. Dyakonov and as the head of the Department of Hospital Surgery at St. Volodymyr Kyiv University (starting in 1912).

It should be noted that, being a pupil and a follower of O. O. Bobrov, S. I. Spasokukotskyi, and M. I. Dyakonov, who represented the oldest schools of surgeons, Oleksiy Petrovich Krymov, as the head of the Department of Faculty Surgery, faithfully preserved and developed the best traditions of his famous predecessors — V. A. Karavaev, O.Kh. Rinek and M. M. Volkovich.

Following his graduation from the university in 1898, O. P. Krymov was awarded the Great Gold Medal for his scientific work on «Kidney Stones and their Surgical Treatment» that was carried out under O. O. Bobrov's supervision. All researchers who have studied O. P. Krymov's professional and scientific path note that while serving as the head of the Department of Faculty Surgery, he experienced a creative upsurge in his scientific career.

O. P. Krymov's entire life was devoted to science. He wrote 135 scientific works, 11 of which were published as monographs and had significant scientific value. O. P. Krymov's credo was to write exclusively about what he did, observed, and understood, avoiding extensive literary references. He left a rich scientific legacy that contributed to the development of various surgical fields, with a focus on military field surgery, diseases of the kidneys and perirenal tissue, herniology, and other surgical issues.

At the Department of Faculty Surgery, O. P. Krymov continued conducting research on the most significant issues in military field surgery begun by his outstanding predecessors, as well as taking part in the organization and provision of battlefield medical care. Krymov was a participant in five wars and the author of 30 scientific works on wartime surgery.

The monograph «Selected Lectures on Military Field Surgery» (1935), which was based on the experience of three wars (Chinese — 1900—1902, Russian-Japanese — 1904—1905, the First World War — 1914—1916), as well as the experience of the Red Cross infirmary for seriously wounded, sponsored by businessman and philanthropist M. I. Tereshchenko, summarized his vast expertise in military field surgery. The monograph analyzes a significant number of observations of gunshot wounds to the skull, chest, abdomen, and blood vessels, as well as cases of gas gangrene. As early as 1914, along with Professor V. M. Shamov, he insisted on prompt treatment of craniocerebral injuries in the nearest infirmary. It was a completely new branch in neurosurgery, and

it wasn't until the following decades that it was put into scientific and practical use. In 1971, Academician A. P. Romodanov emphasized the importance of O. P. Krymov's classification of gunshot wounds to the skull that was introduced in 1936.

In particular, O. P. Krymov focused on the creation of appropriate techniques for the meticulous detection and removal of foreign bodies from the brain. He developed a method and tools with a lighting system that allowed surgeons to perform such procedures under direct vision.

Along with Academician B. M. Mankovsky, O. P. Krymov was one of the pioneers in the surgical treatment of Jacksonian epilepsy. He used electric current irritation to induce convulsions during trepanation of certain regions of the cerebral cortex, which was followed by the excision of these sections. Professor Osten-Saken begins his review of this monograph with the words: «The first lecture deals with gunshot injuries to the skull. You are drawn in by the author's considerable personal experience. There is no list of other people's opinions that we can discover...».

O. P. Krymov was one of the first surgeons in the country who paid special attention to hidden forms of anaerobic infection (1916). Oleksiy Petrovych published the monograph «Military Field Surgery» (1942) that became a guidance for front-line doctors during the Second World War (1943). Krymov's investigations into gunshot wounds to blood vessels were especially valuable for military field surgeons. In the monograph «Gunshot-related Aneurysm» (1943), terminal aneurysms were scientifically studied and described for the first time. It was established that aneurysms and blood flow influence heart function. O. P. Krymov focused on the development of methods for dissecting arteriovenous aneurysms by applying a ligature to an arteriovenous fistula. This technically simple operation enabled military field surgeons to save the lives of thousands of victims (V. D. Bratus, P. D. Fomin, 2005). M. P. Boychak (2005) writes: «The book, which is small in volume, contains a lot of information that would fit under the heading «For the first time: the first described terminal aneurysms, their diagnosis and treatment; The proposed method for dissecting an arterio-venous aneurysm includes the application of a ligature to an arterio-venous fistula...". In his monograph «Essays of War Surgery» (1949), V. A. Oppel states that O. P. Krymov's research in military field surgery was widely recognized. He considers Krymov a highly reputable military surgeon. O. P. Krymov was the first in Ukraine to perform ligation of the innominate artery (1915). He was among the first to study the morphological changes caused by gunshot wounds to the lungs and to propose the classification of peri-wound zones of the damaged lungs (1905). He was also among the first to treat gunshot wounds to parenchymal organs (1903), remove bullets from muscles (1912), and treat gunshot wounds to the joints (1926).

O. P. Krymov was one of the founders of herniology in Europe (I. G. Turovets, 1961). He successfully defended his dissertation «The inguinal hernia and its pathological significance» (1906) that was approved by the medical faculty of Moscow University. O. P. Krymov was one of the first surgeons in the country to describe the process of formation and surgical closure of the inguinal hernia. He proposed an original theory of hernia formation. It is based on the negative pressure in the diverticula, which are considered the precursors of hernia sacs.

In a novel investigation of acquired hernias, O. P. Krymov explored the pathogenesis and variety of inguinal and femoral hernias and proposed his technique for radical inguinal hernia surgery (1903). His outstanding monograph, «The Doctrine of Hernias» (1911), won general recognition and received an award named after Academician O. F. Bush, a member of the St. Petersburg Military Medical Academy. The award was established in 1838 in honour of the 50th anniversary of O. F. Bush's medical practice. From 1844 to 1916, the award was given only seven times. This work has become one of the largest sources of world literature on this issue. The second edition of «Doctrine of Hernias» (1929) remained a desk book for a practicing surgeon for several decades. O. P. Krymov was considered the most prominent researcher on this issue in the world. His work was highly rated by N. V. Antelava, H. M. Gurevich, and M. M. Kovalev. In 1931, O. P. Krymov wrote a monograph «Abdominal Hernias» that became a short guide to herniology for doctors and students. In 1950, the 2nd edition was published.

At the beginning of the 20th century, operations on the kidney and urinary bladder marked the establishment of a new field of surgery. O. P. Krymov's scientific legacy in surgery includes 23 profound works on kidney infection (1907) and paranephritis (1907). He also contributed to the development of the doctrine of the lymphatic system of the perirenal tissue (1907), as well as introduced an original method of nephropexy (Y.Yu. Kramarenko, 1940). In 1907, O. P. Krymov was the first in the world to discover the presence of lymph nodes in the perirenal tissue, which he described in detail. The well-known anatomist of the University of Paris, Rouver, duly evaluated this discovery. O. P. Krymov is considered one of the founders of both kidney and urinary bladder surgery and modern urology.

Among O. P. Krymov's original research works, which were widely recognized by the national and

European surgical community, diagnostic techniques for detecting peritonitis (1921) and acute appendicitis through the inguinal canal (Krymov's symptom) and the umbilical ring (1912) took a special place in surgery. Many surgeons use the operation developed and proposed by O. P. Krymov for the expansion of the veins of the spermatic cord, as well as the method for removing the lower limb and half of the pelvis (1920). He also took part in experimental research (together with the bacteriologist F. M. Blumenthal) in the fields of endocrinology and oncology, investigated the possibility of radiotherapy for the treatment of malignant tumors, and was the first to demonstrate positive outcomes of such treatment in a patient with skin cancer of the cheek (1903). O. P. Krymov removed the thyroid glands from animals in order to prepare blood serum for the treatment of Basedov's disease. He took part in obtaining anti-cancer serum, which was a novelty at that time.

O. P. Krymov developed the theory of intestinal rupture in blunt trauma to the abdomen. His works on the history of national medicine are well-known and include the books about M. I. Pirogov, M. M. Volkovych, and S. P. Fedorov. O. P. Krymov's textbook «A Course in Special Surgery» (1940) contributed to the development of surgery. It was written in Ukrainian and then translated into Russian in co-authorship with Yu.Yu. Kramarenko (the second professor of the department). The second edition of the textbook (1948) received an award named after Professor S. P. Fedorov. For several decades, «A Course in Special Surgery» was the main textbook in medical institutes and the major reference for doctors. Many of its sections are still relevant today.

As a scientist and clinician, O. P. Krymov was famous in Europe and enjoyed the respect and recognition of the leading surgeons. This is evidenced by the telegrams he received from Western European prominent surgeons, including R. Lerish, Bir, W. Körte, and others. They congratulated him on the 40th anniversary of his medical, scientific, and pedagogical work (1938).

O. P. Krymov contributed to the development of medicine and surgery not only as a clinical doctor or as a «thinking doctor», as his contemporaries referred to him, but also as a science organizer. From 1919 to 1928, he headed the Kyiv Physico-Medical Society and created a powerful surgical school that helped in the selection of personnel capable of conducting in-depth research. Under his leadership, a great number of surgeons improved their knowledge and skills. As befits a brilliant scientist and science organizer, O. P. Krymov constantly looked ahead and saw the prospects of the advancement of surgical science that was so valuable to him. He had been the chairman of the Kyiv Scientific Society of Surgeons for 25 years since 1929.

Under his scientific supervision, 15 doctors of science and 20 candidates of science in surgery were trained in Kyiv. Many of his students became professors and heads of large surgical clinics in the country, including O. O. Fedorovskyi, I. H. Turovets, M. P. Postolov, M. I. Kolomiychenko, A. R. Shurynok, Yu.Yu. Kramarenko, P. M. Gelfer, P. L. Shupyk, K. A. Music, I. V. Studzinskyi, M.Yu. Lorin-Epstein, A. A. Olshanetskyi, V. D. Bratus, I.Ya. Slonim, and O. Y. Yasnogorodsky. A significant number of his students were awarded scientific titles of associate professor as well as became assistants. Such outstanding surgeons as S. L. Timofeev, I. M. Ishchenko, O. G. Radzievskyi, and A. A. Gull began their professional careers at the department of the hospital surgical clinic, which was run by O. P. Krymov.

O. P. Krymov's professional and scientific path is a demonstration of his commitment to surgery and determination to become a virtuoso specialist, continuously developing his professional skills, which is crucial for every surgeon.

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Професор Олексій Петрович Кримов. Нарис професійного та наукового шляху видатного хірурга

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Висвітлено професійний та науковий шлях професора Олексія Петровича Кримова — професора хірургії, керівника кафедри факультетської хірургії Київського медичного інституту.