

**“CAROL DAVILA” UNIVERSITY OF MEDICINE AND PHARMACY
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**HABILITATION THESIS ABSTRACT
FROM EMERGENCY TO ELECTIVE SURGERY**

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This habilitation thesis, "**From Emergency to Elective Surgery,**" has been meticulously prepared in compliance with the academic and professional standards stipulated by the National Council for the Recognition of Degrees, Diplomas, and University Certificates (CNATDCU) and the Council of Doctoral University Studies at the University of Medicine and Pharmacy "Carol Davila" in Bucharest. The thesis provides a comprehensive synthesis of my scientific, academic, and clinical contributions, reflecting the progression of my career from the completion of my PhD in 2006 to the present day. It serves as a testament to my sustained commitment to advancing surgical science and practice while charting a course for future endeavors in both research and clinical application.

The thesis is organized into distinct thematic chapters that reflect the breadth of my expertise and research interests:

- **Emergency Surgery**
- **Colorectal Surgery**
- **Thoraco-Abdominal Surgery**
- **Borderline Pathologies**
- **Abdominal Wall Hernias**
- **Scientific Contributions to Surgery**
- **Molecular Biology**

Each chapter encapsulates both the disciplinary and interdisciplinary dimensions of my work, illustrating the integration of research, innovation, and clinical practice. Together, these chapters provide a robust framework for understanding my contributions to modern surgical methodologies, patient care, and academic development.

My personal contributions are presented in the context of the current research landscape, with an emphasis on advancements to scientific knowledge and clinical practices. Since obtaining my PhD in 2007, I have published three monographs, authored six book chapters, two books in resuscitative medicine and contributed with 83 articles. I also hold four patents, including one that has been recognized at an international invention exhibition. In addition, I have participated in three research projects and four international clinical trials and have delivered more than 400 presentations at national and international scientific meetings, conferences, courses, and symposiums. I have also actively contributed to the organization of medical congresses and conferences, serving on various scientific committees.

Of the 83 published articles, 21 are ISI-indexed articles where I am the primary author, 32 articles as co-author. Additionally, I have published 3 articles in ISI Proceedings Journals, 16 articles in PubMed-indexed journals, and 11 in BDI-indexed journals. To provide context for my contributions, I include a selection of representative works that exemplify the scope and depth of my research. These papers, spanning diverse topics from hernia surgery to molecular biology, reflect my commitment to addressing critical issues in modern surgery while advancing the scientific discourse.

List of representative papers:

1. Strâmbu, V., Radu, P., Brătucu, M., Garofil, D., Iorga, C., Iorga, R., & Popa, F. (2013). Rives technique, a gold standard for incisional hernias—our experience. *Chirurgia (Bucur)*, 108(1), 46-50.
2. Strambu, V., Iorga, C., Radu, P., Stoian, S., Puşcu, C., Brătucu, M., ... & Popa, F. (2011). Prognostic factors in colorectal cancer evolution. *Rom J Morphol Embryol*, 52(1 Suppl), 373-377.
3. Radu, P., Zurzu, M., Paic, V., Bratucu, M., Garofil, D., Tigora, A., ... & Strambu, V. (2023). CD34—Structure, functions and relationship with cancer stem cells. *Medicina*, 59(5), 938.
4. Radu, P., Garofil, D., Tigora, A., Zurzu, M., Paic, V., Bratucu, M., ... & Strambu, V. (2023). Parathyroid Cancer—A Rare Finding during Parathyroidectomy in High Volume Surgery Centre. *Medicina*, 59(3), 448.
5. Radu, P., Zurzu, M., Paic, V., Bratucu, M., Garofil, D., Tigora, A., ... & Strambu, V. (2022). Interstitial cells of cajal—origin, distribution and relationship with gastrointestinal tumors. *Medicina*, 59(1), 63.
6. Grigorean, V. T., Sandu, A. M., Popescu, M., & Strambu, V. (2017). Ventriculoportal shunt, a new transomphalic extraperitoneal surgical technique in treatment of hydrocephalus. *Surgical Innovation*, 24(3), 223-232.
7. Radu, P., Brătucu, M., Garofil, D., Pasnicu, C., Iorga, C., Popa, F., & Strâmbu, V. (2013). Molecular factors of failure in incisional hernia surgery. *Chirurgia*, 108(2), 193-198.
8. Popa, F., Brătucu, M., Radu, P., Iorga, C., Garofil, D., Cuibac, A., & Strambu, V. (2013). Septic remnants, a crucial factor in the outcome of supplicated pancreatitis. *Chirurgia (Bucharest, Romania: 1990)*, 108(1), 7-12.

9. Pantea, S., Bengulescu, I. M., Orosan, G., Strambu, I., & Strambu, V. D. E. (2016). Brachiobasilic arteriovenous fistula with transposition of the basilic vein: a multicenter study. *Turkish journal of medical sciences*, 46(3), 702-705.
10. Iorga, C., Iorga, C. R., Andreiana, I., Bengulescu, I., Constantin, T., & Strambu, V. (2023). Advantages of total parathyroidectomy in patients with secondary hyperparathyroidism induced by end stage renal disease. *Frontiers in Endocrinology*, 14, 1191914.

Emergency Medicine Focus.

A cornerstone of this thesis is my extensive work in **emergency medicine**, developed over two decades at St. Pantelimon Emergency Hospital. My involvement has encompassed not only the evolution of the Emergency Department but also the integration of multidisciplinary approaches in trauma care, general surgery, neurosurgery, and orthopedics. The high-acuity cases encountered at this institution, particularly those involving thoraco-abdominal injuries, have necessitated innovative strategies and collaborative interventions. My work has contributed to improving survival rates and quality of life for polytrauma patients, with a particular focus on complex injuries that demand comprehensive and timely therapeutic responses. I have introduced novel techniques and trauma algorithms tailored to high-risk scenarios, which have had a measurable impact on patient outcomes.

Thoraco-Abdominal Borderline Pathology

The prevalence of thoraco-abdominal borderline pathologies in trauma cases opened a new research field, one that is less frequently addressed in existing literature. Often, clinicians focus solely on the primary or most visible injury, which may result in overlooked secondary lesions. Such oversight can have serious, even fatal consequences if left untreated. Prompt and accurate diagnosis, followed by the appropriate therapeutic approach, has proven critical for optimal patient outcomes. My secondary specialization in thoracic surgery complements my research and clinical practice in this field.

Throughout my research on thoraco-abdominal borderline pathologies, I have aimed to develop clinical guidelines that ensure comprehensive recognition of all injuries. Additionally, I have proposed and refined a trauma algorithm specifically designed for high-risk patients with complex, multi-system injuries. One notable innovation has been the

introduction of a novel technique for managing traumatic flail chest, along with detailed recommendations on both conservative and surgical treatments for trauma injuries. I have been privileged to work alongside colleagues and other scientists in numerous surgical and biomaterials research projects, which have significantly contributed to this field.

Contributions to General Surgery

Since the beginning of my career in 1990, I have dedicated myself to advancing general surgery through the development and refinement of innovative techniques. My primary focus has been on adopting laparoscopic methods for abdominal and hernia pathologies, allowing me to integrate the latest research and clinical advancements to address complex cases effectively.

In addition to my contributions to minimally invasive surgery, I have been instrumental in establishing the parathyroid surgery program at the Dr. Carol Davila Clinical Hospital of Nephrology. Under my guidance, the clinic has become a recognized center of excellence in this field, earning national and European distinction for its expertise.

My commitment to patient-centered care has driven me to continually explore and implement surgical techniques that improve recovery times and outcomes. Through interdisciplinary collaboration and ongoing research, I have sought to refine practices and align them with evolving standards in modern medicine. This approach ensures that my clinical work not only addresses immediate patient needs but also contributes to the broader field of surgical innovation.

Future Directions and Current Projects

The final section of this thesis delineates my aspirations for future work across clinical practice, teaching, and research. Central to these objectives is the advancement of minimally invasive and emergency surgical techniques, as well as the dissemination of knowledge through high-impact publications and educational initiatives.

I aim to continue contributing to the scientific community by exploring new research avenues, fostering collaboration, and mentoring the next generation of surgeons. By aligning my efforts with global trends in surgical innovation, I hope to enhance both the theoretical and practical dimensions of surgery, ensuring that my work remains at the forefront of medical progress.