

REVIEW

by Prof. Dr. Atanas Stefanov Yonkov, PhD MD
Professor in Professional Field 7.1. Medicine, Head of Department of General and Operative Surgery, Medical Faculty, Medical University – Sofia

Appointed as an external member of the Scientific Jury by Order No. P-109-1/02.01.2025 of the Rector of MU "Prof. Dr. Paraskev Stoyanov" – Varna, appointed as the reviewer for the first non-attendance meeting of the Scientific Jury for the dissertation work for awarding the educational and scientific degree 'Doctor'

Field of Higher Education: 7. Healthcare and Sports, Specialty 7.1. Medicine

Scientific Specialty: "Cardiac Surgery"

Author: Dr. Pavlin Lyubenov Manoilov

Department: "Cardiovascular Surgery and Angiology", Cardiac Surgery Clinic,
MU "Prof. Dr. Paraskev Stoyanov" – Varna

Title: "Epidemiology, Risk Factors, and Clinical Manifestation of Wound Infections After Sternotomy. Trends for Prevention and Treatment in the Cardiac Surgery Clinic"

Form of Doctoral Studies: Independent Preparation

Scientific Advisor: Prof. Dr. Plamen Panayotov, MD, Department of "Cardiovascular Surgery and Angiology", MU "Prof. Dr. Paraskev Stoyanov" – Varna

1. General Presentation of the Procedure and the Doctoral Candidate

The presented set of materials in paper and electronic form complies with the Regulations for the Development of Academic Staff at MU "Prof. Dr. Paraskev Stoyanov" – Varna and the Procedure for Obtaining the Educational and Scientific Degree "Doctor" at MU – Varna, and includes the following documents:

- Dissertation;
- Abstract of the dissertation work;
- Electronic carrier with the candidate's documents and publications: CV, copy of diploma for completed Master's Degree, order for enrollment, protocols from exams for doctoral minimum, protocol from the Scientific Council with a positive decision for readiness for defense, and decisions for the opening of the procedure and the composition of the Scientific Jury, order for dismissal with the right to defend; declaration of originality, list of publications related to the dissertation topic – 7 publications, copies of publications, declaration of the reliability of the presented documents, list of participations related to the dissertation topic,

other documents related to the procedure.

The procedure for defending the dissertation work, as well as the related documents, meet the requirements.

Dr. Pavlin Lyubenov Manoilov completed his higher education as a Master in "Medicine" at MU – Pleven in 1991. After graduation, he worked as a factory doctor at the Polyclinic in Lyaskovets and later as a surgeon at the MOBA "Dr. Stefan Cherkezov" – Veliko Tarnovo. From 2009 to 2011, he was part of the team at the Cardiac Surgery Clinic at Ospedale Niguarda, Milano, Italy, and since 2011, Dr. Pavlin Manoilov has been working at the Cardiac Surgery Clinic, University Hospital "Saint Marina" – Varna. Since 2019, he has been an assistant professor in the Department of "Cardiovascular Surgery and Angiology" at MU "Prof. Dr. Paraskev Stoyanov" – Varna. He teaches students in both Bulgarian and English language programs at MU Varna. He has acquired two specialties: "Surgery" and "Cardiac Surgery." In December 2022, Dr. Pavlin Manoilov enrolled in an independent form of study to obtain the educational and scientific degree "Doctor" at MU – Varna.

2. Relevance of the Scientific Topic

Postoperative mediastinitis following heart surgery is a complication associated with high morbidity and mortality. The treatment of such patients is associated with significant costs, prolonged hospitalizations, repeat surgeries, and often re-hospitalizations. Good practice requires knowledge of risk factors, treatment methods, and preventive measures based on scientific evidence.

In view of the above, I consider the topic of Dr. Pavlin Manoilov's dissertation to be relevant and of high scientific value. The objective of the study is adequately formulated in relation to the presented material, and the tasks are fully and precisely defined.

3. Knowledge of the Problem

The dissertation presented for review is written on 133 pages. It is illustrated with 50 tables, 2 diagrams, and 24 photographs – original material. The bibliography includes 335 sources, and it is up-to-date, with most of the references being from the last 5-10 years. The candidate's work clearly demonstrates comprehensive knowledge of the problem and a creative approach to the scientific material used.

4. Characteristics of the Dissertation Work

The dissertation follows an accepted structure, containing all the main elements for presentation: introduction, literature review, objectives, tasks, materials and methods of research, results, discussion, conclusion, and bibliography. The exposition is presented accessibly and concisely. The literature review is contemporary and sufficiently informative. All aspects of the pathogenesis of wound infections after open heart surgery, the socio-economic impact, numerous risk factors for the occurrence of this complication, as well as modern preventive and treatment measures, are discussed. The role of negative pressure therapy in the treatment of superficial and deep infections of the chest wound is also highlighted.

The goal is clearly defined, and the tasks logically correspond to the steps needed to achieve it. The materials and methods used are described in detail, and the limitations regarding the object and territory of the study are pointed out.

The candidate's own research emphasizes the role of risk factors for the occurrence of wound infection after sternotomy in the Cardiac Surgery Clinic and the results of prevention measures. The role of risk factors is compared and evaluated before and after the introduction of the Prevention Protocol. A good impression is made by the detailed presentation of the steps in the cited Protocol and the candidate's well-founded justification for its implementation. The above facts correlate with Dr. Pavlin Manoilov's data showing a reduction in the frequency of these complications in the Cardiac Surgery Clinic – Varna. As a result of the literature review, analyses, and processed data, 11 conclusions are drawn, and 3 contributions of original scientific and practical-applied nature are presented.

5. Evaluation of Publications and the Personal Contribution of the Doctoral Candidate

Dr. Pavlin Manoilov has presented 7 publications in the Bulgarian scientific literature. He is the first author in all of them, which clearly reflects his contribution to the scientific developments.

6. Conclusion

The presented work is the result of extensive research material on the topic and a thorough study of the epidemiology, risk factors, and manifestation of wound infection after heart surgery, as well as methods for prevention and treatment in the Cardiac Surgery Clinic. In terms of significance, relevance, and originality, the work possesses all the qualities of a dissertation for obtaining the educational and scientific degree "Doctor." The dissertation contains scientific and applied scientific results, which represent an original contribution to

science and meet all the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria, the Regulations for its Implementation, and the Regulations of MU – Varna.

Therefore, I confidently give my positive evaluation of the presented dissertation and propose to the esteemed scientific jury to award the educational and scientific degree "Doctor" to Dr. Pavlin Manoilov in the doctoral program in the scientific specialty "Cardiac Surgery."

Date: 10.02.2025

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Заличено на основание чл. 5, §1, б. „В“ от Регламент (ЕС) 2016/679
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Reviewer:
(Prof. Dr. Atanas Yonkov, PhD)