

STATEMENT

By Assoc. Prof. Boris Ivanov Matev, MD
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Member of the scientific jury selected by Order No. P-109-46/16.01.2026 of the Rector of
Prof. Dr. Paraskev Stoyanov Medical University – Varna

Regarding the dissertation of Dr. Petar Valentinov Petkov, a regular doctoral student at the Department of Orthopedics and Traumatology, Faculty of Medicine, Medical University "Prof. Dr. Paraskev Stoyanov" – Varna, for the award of the educational and scientific degree "Doctor" in the scientific specialty "Orthopedics and Traumatology."

Topic "Post-traumatic stiffness of the elbow joint"

Scientific supervisor: Prof. Dimitar Ivanov Raikov, MD, PhD

Dr. Petar Valentinov Petkov graduated from Medical University – Varna in 2015 with a degree in medicine, subsequently specializing in orthopedics and traumatology in 2021.

His professional development is closely linked to clinical practice, having worked over the years in medical facilities specializing in orthopedics and traumatology.

He has been a regular doctoral student at the Department of Orthopedics and Traumatology at MU Varna since 2021.

He actively participates in national and international scientific forums and has completed a number of postgraduate courses (course on elbow arthroscopy and upper limb tendon transpositions on frozen cadavers – Thessaloniki, Greece, FESSH Academy Foundation Course in hand surgery in Budapest, Hungary).

The accumulated clinical experience and interest in the problems of functional recovery are logically reflected in the chosen topic of the dissertation.

Relevance and significance of the research

Post-traumatic stiffness of the elbow joint is a common and clinically significant complication following traumatic injuries and surgical interventions. Due to the complex anatomy and biomechanics of the elbow, even relatively minor structural damage can lead to significant functional limitation. In daily orthopedic practice, this condition is often associated with prolonged treatment and incomplete recovery, with an adverse effect on the quality of life and working capacity of patients.

Characteristics of the dissertation

The dissertation is 124 pages long. It is structured in a classical manner and includes an introduction, literature review, objectives and tasks, materials and methods, results and discussion, conclusion, conclusions, and references. The work is illustrated with 19 figures, 7 graphs, and 9 tables. The bibliography covers 172 literature sources, 170 of which are by foreign authors, with more than half published in the last five years.

Literary review

The literature review is comprehensive and clinically oriented. The etiology, pathogenesis, classifications, and clinical picture of post-traumatic elbow stiffness are discussed. Both surgical and conservative treatment methods are presented, with particular attention paid to the role of early functional recovery, the use of braces, and the application of physical factors.

As already mentioned above, the literary review is well represented in terms of both content and volume, but the Bulgarian contribution in this field should also be cited; the publications of Prof. N. Dimitrov et al.

Study purpose, objectives, and methodology

The aim of the dissertation is clearly formulated –to make a comparative assessment of functional recovery according to the factor "onset of mobilization" of the elbow joint: on the 14th day (early onset) and after the 30th day (late onset), in cases of already diagnosed PTES.

The five tasks set are clearly and specifically formulated, fully in line with the objective set, and create the conditions for its comprehensive and well-argued implementation. Specifically:

1. To monitor the presence or absence of immediate and long-term effects of early (14th day) and late (30th day) initiation of mobilization.
2. To determine the extent to which early onset (14th day) of mobilization shortens the treatment period for elbow stiffness.
3. To perform a comparative analysis of the therapeutic effects of early (14th day) and late (30th day) onset of mobilization.
4. To study the functional activity and quality of life in patients who began mobilization no later than the 14th day, compared to those who began after the 30th day of the injury.
5. To investigate the possibility of side effects and adverse reactions in both types of treatment.

The clinical study covers 90 patients divided into two equal groups.

1. Group "1": Early onset of mobilization – 14 days after trauma/surgery, followed by physical therapy and rehabilitation, with results recorded at three time points (T^1 , T^2 and T^3).
2. Group "2": Late onset of mobilization – removal of immobilization on the 30th day after trauma/surgical intervention, followed by physical therapy and rehabilitation and recording of results at three time points (T^1 , T^2 and T^3).

Established methods for functional assessment were used, including the Mayo Elbow Performance Score and a visual analog scale for pain. The statistical methods applied allow for reliable interpretation of the data obtained.

The number of patients presented is sufficient, but unfortunately, the number of those who underwent surgery is not.

Results and discussion

The results are presented clearly and concisely. A significant reduction in pain symptoms, increased range of motion, and improved functional status were reported. The comparative analysis shows faster functional recovery in patients with earlier onset of

mobilization. Differences in the recovery process depending on the etiology of the injury were also noted, which emphasizes the need for an individualized therapeutic approach. It should be noted, however, that it is quite difficult to compare patients who have undergone surgery with those who have not. The start of mobilization depends on the severity of the injury, the quality of the surgery, and the expertise involved in the rehabilitation process.

Contributions of the dissertation

The following important contributions can be noted in the scientific work presented by Dr. Petar Valentinov Petkov:

1. A comparative analysis of functional recovery in patients with post-traumatic elbow stiffness depending on the timing of the start of active mobilization was performed, which has direct clinical significance for therapeutic behavior.
2. The study was conducted on a clinical sample, allowing for a reliable statistical assessment of functional outcomes at different starting points in the rehabilitation process.
3. The functional status of patients was assessed using established and objective methods (VAS, MEPS, and gonioscopic assessment), which ensures the reliability of the results obtained.
4. The results obtained substantiate the importance of early functional treatment and create prerequisites for optimizing diagnostic and therapeutic algorithms in patients with post-traumatic elbow stiffness.
5. The analysis of the combined application of physical factors and rehabilitation techniques demonstrates their practical effectiveness and potential for wide application in clinical orthopedic practice.

Dr. Petkov's dissertation, "Post-traumatic stiffness of the elbow joint," is an innovative work addressing a difficult problem, namely post-traumatic stiffness of the elbow joint.

The dissertation submitted for review demonstrates the author's ability to formulate a scientific thesis, develop an appropriate methodology for its investigation, select suitable material, and draw reliable conclusions.

I recommend that the author continue his research in this area by developing an algorithm for postoperative management of various types of elbow joint injuries.

The dissertation meets the qualitative and quantitative criteria of MU-Varna, set out in the Requirements for a dissertation for obtaining an educational and scientific degree "Doctor".

I give a positive assessment of the work and recommend that the members of the Scientific Jury award Dr. Petar Valentinov Petkov the educational and scientific degree of "DOCTOR" in Scientific specialty "Orthopedics and Traumatology".

11.02.2026r

Sofia

Statement prepared by:

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