**Review**

by Prof. Lyuben Stokov, PhD

of the dissertation of Dr. Evgeni Vlaev entitled
**"Surgical treatment of scoliosis in children - methods for evaluation and analysis of the achieved results"**

The dissertation is written in a volume of 130 pages. It is structured correctly, contains an introduction, an overview of the literary methodology of the study, results of the same, discussion, conclusions and recommendations. The author used a rich literary reference in Cyrillic (11 authors) and Latin (124 authors).

The topic of the dissertation is current and has not been studied in our country. A large-scale study of 101 pediatric patients was conducted, which relative to the population in the country provides valuable statistics data. Not only children with AlS classified according to Lenke were studied, but also those with the following types of scoliosis: Congenital, Neuromuscular, Neurofibromatosis, Genetic syndromes.

The most problematic infantile and juvenile groups of scoliosis are specially monitored, analyzed and statistically processed.

Various clinical and radiological parameters (Cobb angle, rotational displacement of the apex vertebra, coronary, sagittal and shoulder balance) were studied. The mentioned parameters have been monitored in AIS and the other types of scoliosis. Correlation analyzes have been performed and relevant dependencies have been identified. The surgical results of the treatment of scoliosis are impressive. The average preoperative angle according to Cobb was 70 degrees, and the average value of the same angle postoperatively was 33.60 degrees.

The study of the identified 5 groups of the SRS22 questionnaire provides a detailed subjective assessment of the quality of life of operated patients, including those with AIS. The patient's special self-assessment corresponds to a good surgical result, is easy to perform and informative enough. The subjective assessment is consistent with the patient's gender and the location of the scoliosis.

The author describes in detail a protocol for preoperative preparation and three algorithms for planning and improving the results of surgical treatment of scoliosis. This planning algorithm creates an option to change the choice of operational approach to the specific case. The algorithm for postoperative evaluation of the results analyzes the adequacy of the approach in preoperative planning. The same can be used in the training of specialists with an affinity for spinal surgery. The good surgical results and the subjective postoperative assessment of the change in lifestyle according to the SRS22 questionnaire fully support the case-by-case approach for treatment. The mentioned questionnaire on the preoperative preparation and postoperative follow-up of the operated patients with scoliosis is a quality method for self-assessment, easy to apply and positively accepted by the patients and their parents. In conclusion, I believe that the dissertation of Dr. Evgeni Vlaev is a complete comprehensive presentation of not only surgical results but also a comprehensive social and household study of operated patients in the long term scientific work. The main contributions of the dissertation are the introduced protocol and three algorithms related to preoperative preparation, planning and selection of the approach to surgical treatment of scoliosis, as well as a comprehensive social study of operated patients on the implemented SRS22 questionnaire.

I am deeply convinced that the dissertation of Dr. Evgeni Vlaev on the topic

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meets the requirements for the award of Educational and Scientific Degree "PhD" in the field of higher education 7, health and sports, professional field 7.1 Medicine, Doctoral Program "General Surgery".

Based on the above, I declare that I vote in favor of awarding of Educational and Scientific Degree "PhD" to Dr. Evgeni Vlaev and I recommend the same to the members of the the scientific jury.