

OPINION

FROM

PROF. DR. HRISTO CEKOV CEKOV, PhD,

CHIEF OF NEUROSURGERY CLINIC, "ACIBADEM CITY CLINIC UMBAL TOKUDA", SOFIA

Regarding: Competition for the occupation of the academic position "Associate Professor" in the field of higher education 7. Health care and sports, Professional direction 7.1. Medicine, scientific specialty "Orthopaedics and Traumatology" for the needs of the "Orthopaedics and Traumatology" Clinic at "Acibadem City Clinic UMBAL Tokuda" EAD, Sofia

Candidate: Dr. Adeline Ivanov, PhD, chief assistant at the Orthopedics and Traumatology Clinic of "Acibadem City Clinic UMBAL Tokuda", EAD, Sofia

For admission to the competition, all the requirements and conditions of ZRASRB and the Regulations for the development of the academic staff at "Acibadem City Clinic UMBAL Tokuda" have been met.

Dr. Adelin Georgiev Ivanov was born in 1962, graduated from the French language high school in Stara Zagora. He completed his medical education at Trakia University, Stara Zagora - 1983-1989, with the degree of "Master." In 1996, he was recognized as a specialist in Orthopedics and Traumatology. He has been working as an assistant at the Orthopedics Clinic at Trakia University, Stara Zagora since 1990, and since 2019 he has been a part-time assistant at the Faculty of Medicine of Sofia University "Kliment Ohridski". Since 2006, he has been appointed as a resident at the Orthopedic Clinic of Tokuda Hospital, Sofia.

In 2005, there was already a recognized master's degree in Health Management. He defended specializations and certificates in health management in 2005 and 2006 in Ascona /Switzerland/. There are specializations in: Operative treatment of children's spinal deformities /SRS program, 2010-2020/; Inter University Hospital "A. Pare", Clinic of Orthopedics, 1998; 1994-1995. He speaks English, French and Russian. He is a member of the Bulgarian Orthopedic Society.

In 2023, he successfully defended his dissertation on the topic "Free hand technique for placement of pedicle screws in the surgical treatment of idiopathic scoliosis in childhood". The dissertation has outstanding scientific and practical contributions. For the first time in Bulgaria, the problem of placement of vertebral screws with limited X-ray exposure is being developed, which significantly reduces the exposure of the patient and the medical staff to X-ray radiation. With this technique, the time required for the intervention is also reduced, the quality of the correction and the stability of the structure are improved.

For participation in the current competition, Dr. Ivanov presents the monograph "Neuromuscular scoliosis - peculiarities in development, planning and operative treatment", Sofia. Veritas et Pneuma, 2024. The monograph, for the first time in Bulgaria, presents a systematic approach in diagnosis, evaluation, stages and features in planning the surgical treatment of children with scoliosis based on neuromuscular diseases. The monograph was

developed on the basis of Dr. Ivanov's rich experience in the surgical treatment of 40 patients, a unique work in which the features and risk groups for the development of problematic spinal deformities in children with neuromuscular diseases are presented. Algorithms have been introduced and confirmed in the preoperative protocol, the assessment of the expected results and possible complications, the stages and features of the operative treatment are presented in detail. It is of practical importance that the specialists from the health network provide an extensive overview of the treatment options for children with neuromuscular dystrophy. The publication of the monograph follows a number of publications that confirm a systematic approach in the evaluation, planning and operative treatment of scoliotic deformities in childhood.

In addition to the mentioned dissertation and monograph, Dr. Ivanov presented himself in the competition with 14 publications, which were cited by Bulgarian authors 14 times. Dr. Ivanov made a certain contribution in the introduction of posterior vertebrodesis and Ponte osteotomies in the surgical treatment of adolescent idiopathic scoliosis type Lenke 1-4, introduced and strengthened a technique for mini-invasive surgery for the correction of deformities in the forefoot.

Together with Dr. Kamenova and his team, he introduced intraoperative monitoring as a routine practice in the treatment of children with spinal deformities. Last but not least are the publications related to the introduction of methods and orthopedic techniques to improve the treatment of patients with orthopedic and traumatic injuries of the shoulder joint.

The contributions of Dr. Ivanov's scientific output can be summarized in two groups:

Scientific-applied and confirmatory contributions:

- Processed and analyzed a relatively large number of patients for this type of pathology (68 cases), with surgical treatment of idiopathic scoliosis with achieved results comparable to the data from the world literature.
- Achieved levels of fusion density and reported levels of problematic screw positioning using the Frei hand technique comparable to reported results in the literature.

Contributions of a scientifically applied and original nature:

- Proven dependence between the amount of rotation and the size of the preoperative angle with the number of screw malpositions.
- Proven dependence between the type of scoliosis, as well as the Lenke type of scoliosis with the number of screw malpositions.
- Proven lack of correlation between missing 1 or 2 positions in 4 levels of the apical zone examined and the size of the preoperative Cobb angle. Omitted such positions do not affect the deformation correction levels.
- An original screw position verification protocol introduced and tested with good effect.
- The features and risk groups for the development of problematic spinal deformities in children with neuromuscular scoliosis are presented.

- Introduced and validated algorithms in the preoperative protocol, the assessment of expected results and possible complications, the stages and features of the operative treatment are presented in detail.
- Introduction and confirmation in the surgical practice of Ponte osteotomies in cases of rigid curvatures in childhood scoliosis.
- Introduced and approved technique for mini-invasive surgery for the correction of deformities in the front part of the foot.
- Validation of a systematic approach in the assessment, planning and operative treatment of scoliotic deformities in childhood.
- Introduction and confirmation of intraoperative monitoring as a routine practice in spinal deformity surgery, especially in cases of neuromuscular scoliosis.
- Introduction of methods and orthopedic techniques to improve the treatment of patients with orthopedic and traumatic injuries in the shoulder joint.

In conclusion, I can confirm that Dr. Ivanov is an accomplished orthopedic specialist - traumatologist, proficient in modern operative methods, introducing new operative methods, training young colleagues, enjoying the respect of colleagues and the trust of patients.

The presented scientific production has been evaluated with the number of citations and meets all the criteria, quantitative and qualitative, which are required for the occupation of the academic position "Associate Professor".

I believe that Dr. Adeline Ivanov has all the qualities and presents in favor of this sufficient evidentiary material that fully meets the criteria laid down in the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations on the Development of the Academic Staff at "Acibadem City Clinic UMBAL Tokuda» Sofia and I am happy to vote **Yes** for Dr. Adelin Georgiev Ivanov to occupy the academic position of "Associate Professor".

03/03/2024

Sofia

Prepared the opinion:

(Prof. Dr. Hristo Cekov, PhD)