

## REVIEW

From

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**ABOUT: Competition for the academic position of "Associate Professor" in the field of higher education 7. Healthcare and sports, professional field 7.1. Medicine in the specialty "Vascular Surgery", for the needs of the Department of Vascular Surgery of "National Heart Hospital", announced in State Newspaper no. 17 of February 26, 2021**

**Order of the Director of 'National Heart Hospital' for appointment of a scientific jury № № 138 / 02.04.2021**

The review was prepared in accordance with the Academic Staff Development Act, the Regulations for application of the Academic Staff Development Act and the Regulations for the conditions and the procedure for acquiring scientific degrees and holding academic positions in "National Heart Hospital" and requirements for occupying the academic position (AP) "Associate Professor". The procedure for announcing the competition is in accordance with the requirements of the Law on Scientific Degrees and Scientific Titles, no procedural violations have been established. Dr. Nadelin Krasimirov Nikolov, MD is the only candidate in the contest.

Dr. Nadelin Nikolov was born on April 30, 1978. He graduated English High school in Burgas in 1997. In 2003 he graduated medicine at the Medical University, Sofia and was appointed as an assistant at the Department of Vascular Surgery and Angiology, Sofia. Since 2015 he has held the position of head of the operating room at the department of Vascular Surgery and Angiology in the National Heart Hospital, Sofia. The total work experience of Dr. Nikolov is fifteen years.

Dr. Nadelin Nikolov has a degree in Vascular Surgery since 2014, he obtained a certificate of professional qualification in Endovascular Vascular Surgery in 2015. He defended his PhD on "Opportunities to reduce the overall risk in the surgical treatment of carotid stenosis" in 2016. He speaks fluently English. Dr Nikolov specializes in leading centers in the field of endovascular, vascular surgery and phlebology in Europe in the following areas: endovascular therapy of aortic aneurysms, peripheral and carotid arteries; mini-invasive endovenous procedures and critical ischemia of the limbs.

### **Evaluation of research activity**

This evaluation is based on publications and various forms of scientific activity. The scientometric data are presented in Table 1. The available points of Dr. Nikolov exceed the minimum requirements for "Associate Professor".

Table 1. Scientometric data of Dr. Nikolov

<b>Indicators Group</b>	<b>Indicator</b>	<b>Min. Points</b>	<b>Fulfilled number of points</b>
<b>A</b>	1. PhD for awarding educational and scientific degree "doctor"	50	50
<b>B</b>	3. Habilitation work-monograph	100	100
<b>C</b>	8. Publications and reports published in unrefereed scientific journals reviewed or published in edited collective volumes	200	253,5
<b>D</b>	11. Citation in monographs and collective volumes with scientific review	15	75
<b>Total</b>		<b>400</b>	<b>478,5</b>

Dr. Nikolov participates in the competition for "Associate Professor" in vascular surgery with 35 scientific works:

- 1 PhD for the award of educational and scientific degree "Doctor" and abstract to it
- 1 independent monograph
- 27 publications and reports published in non-referred journals with scientific review or published in edited collective volumes (in 6 of which he is the first author)
- 6 citations or reviews in scientific journals, referenced and indexed in world-famous databases with scientific information or in monographs and collective volumes

Dr. Nikolov's publications can be divided into several areas, and their quality characteristics are of a very high scientific and scientific-applied level:

1. Risk factors for cardiovascular disease and multifocal atherosclerosis
2. Ultrasound screening for extracranial carotid stenosis
3. Diagnosis of extracranial carotid stenosis
4. Therapy of extracranial carotid stenosis
5. Diagnosis and treatment of deep vein thrombosis, prevention of venous thromboembolism
6. Diagnosis and treatment of peripheral arterial disease
7. Diagnosis of chronic venous disease
8. Antithrombotic therapy of peripheral arterial disease and cerebrovascular disease
9. Invasive treatment of peripheral arterial disease
10. Invasive treatment of extracranial carotid stenosis
11. Invasive treatment of deep vein thrombosis
12. Invasive treatment of abdominal aortic aneurysms

### **Scientific contributions**

Dr. Nikolov presents multifaceted research and publication activities with contributions of scientific and scientific-practical value in several main areas:

1. In the field of cerebrovascular diseases he studied
  - prevention, diagnosis and treatment of stroke caused by extracranial carotid stenosis;
  - the role of risk factors in the pathogenesis of SMEs based on the ten-year experience of the Clinic of Angiology and Vascular Surgery;
  - the diagnostic value of non-invasive imaging of carotid atherosclerosis - color duplex scanning (CDS), digital subtraction angiography (DSA), computed tomography angiography (CT) and magnetic resonance angiography (MPA), to determine the percentage of carotid stenosis .
  - all modern possibilities for reduction of the general risk in CEA both in isolated carotid pathology and against the background of multifocal atherosclerosis (MFA). The role of CDS, antiplatelet prophylaxis and routine shunting to reduce perioperative risk has been confirmed.
  - all aspects of the diagnosis and indications for the treatment of extracranial carotid stenosis, supported by data from recent studies and guidelines.

- the "path" of treatment of the patient - from diagnosis, through intervention (CEA or CAS) to medication and follow-up;

- concomitant involvement of different vascular beds, which worsens the prognosis and is associated with a higher rate of complications. They are significantly reduced with modern methods of treatment of MFA (endovascular and hybrid surgery), which contribute to improving the prognosis and quality of life of patients.

For the first time in the monograph "Carotid revascularization" the two types of treatment are described - operative and endovascular, but not as competing, but as complementary methods. All types of surgical techniques with their advantages and disadvantages are exposed in detail, also the types of anesthesia, methods of intraoperative monitoring of cerebral perfusion, as well as early and late complications. The rapid development of carotid stenting, the types of devices and stents, protection systems, as well as the variations of the endovascular technique itself are covered in detail. The ten-year experience of the clinic in the surgical treatment of carotid stenosis is described and the results are extremely good and comparable with the world practices.

2. In the field of peripheral arterial disease (PAD) for the first time in Bulgaria a comparative analysis of the three main methods for treatment of aorto-iliac occlusive disease was performed: angioplasty with stenting, hybrid surgery and open surgery. They have similar results, but endovascular therapy brings additional benefits to the patient - shortened hospital stay, less or no surgical trauma, rapid recovery and return to normal life. In the presented Clinical Guide, experts in the field of arterial diseases have collected, processed and presented the published evidence for diagnosis, treatment and prevention of PAD. The place of beta-blockers in the treatment of patients with PAD has been studied. A review of the current literature on antithrombotic therapy and prevention of this disease has been made. Clinical cases of application of endoprosthesis in emergency and life-threatening conditions in vascular surgery, open surgery in case of rupture of the aneurysm of the abdominal aorta to the retroaortic left renal vein have been described. The location of hybrid procedures in patients with thromboangiitis obliterans was also discussed. Emphasis is placed on the features of PAD in diabetics, medical and invasive (open surgery or endovascular) treatment of diabetic foot, as well as the factors that determine which one to choose for each individual patient. The practice and the X-ray dose of the patient in endovascular and hybrid revascularization of the lower extremities were studied.

3. In the field of diagnosis and treatment of deep vein thrombosis (DVT), clinical cases have been reported for the first time in several publications in which mechanical or pharmacomechanical thromboaspiration has been performed after acute symptomatic proximal DVT threatening with phlegmasia cerulea dolens with tPA. This leads to rapid pain relief, reduction of edema, prevention of pulmonary thromboembolism, recurrent venous thrombosis and the development of postthrombotic syndrome. The role of direct oral

anticoagulants as an increasingly common alternative to traditional anticoagulant therapy and their establishment as preferred by physicians and patients is considered.

4. In the field of diagnosis and treatment of varicose veins Dr. Nikolov introduces and uses for the first time in Bulgaria two of the minimally invasive methods for the treatment of reflux in the great superficial vein - cyanoacrylate embolization and mechano-chemical ablation. One of the publications reviews the modern invasive treatment of varicose veins.

5. In the field of diagnosis of rare vascular diseases, the role of non-invasive imaging methods in the diagnosis of Takayasu's arteritis with bilateral aneurysms and carotid artery stenosis has been discussed.

### **Other scientific activity**

- co-author in the development of a Clinical Guide for diagnosis and treatment of peripheral arterial disease
- introduces the routine application of hybrid operative techniques in the Department of Vascular Surgery at the National Heart Hospital in the treatment of peripheral arterial and cerebrovascular disease.
- for the first time in Bulgaria introduced the use of cyanoacrylate embolization of the great superficial vein, as well as mechano-chemical ablation of the same, as the most modern and minimally invasive methods of treatment for varicose veins.
  - Participant as a researcher in four major international multicenter randomized trials: REMEDY, TALECRIS, EUCLID, VOYAGER.

### **Evaluation of teaching activities**

From the provided reference, the study load amounts to a total of 250 hours / year. Dr. Nikolov participates in the training of vascular surgery and angiology residents with thematic practical classes and lectures. He participates in commissions for conducting exams in vascular surgery and angiology. Dr. Nikolov participates in a number of forms of training of doctors in out-of-classroom form by giving lectures at training modules. The educational activity is directly related to the participation in author groups of some teaching aids - monographs and collections of scientific materials. The pedagogical qualities and skills of the candidate are excellent.

### **Evaluation of the diagnostic and treatment activity**

The candidate has a specialty - vascular surgery. He maintains excellent continuing medical education in the form of training courses and participation in different forums locally and abroad as a result of which he has excellent abilities in the diagnosis and treatment of cardiovascular disease. He has excellent abilities in ultrasound diagnosis of the abdominal aorta, peripheral and carotid arteries, as well as the diagnosis of pathology in the deep and superficial venous system of the limbs. This helps him a lot in his work as a surgeon and endovascular specialist. Dr. Nikolov is a complex vascular surgeon who applies innovative approaches in both open surgery and endovascular procedures. He introduced and used for the first time in Bulgaria two of the minimally invasive methods for the treatment of reflux in the great superficial vein. He is the first certified vascular surgeon in Bulgaria for implantation of a Supera stent. These qualities make him very famous and respected among the community of vascular specialists in the country.

**SUMMARY:** The candidate covers the quantitative requirements for research, teaching and diagnostic activities for the educational and scientific position of "Associate Professor". I have no remarks on the participation of the candidate in the competition.

**CONCLUSION:** In the competition Dr. Nadelin Nikolov presents himself as a quality specialist with long medical, research and teaching experience. He has a recognized specialty in vascular surgery and a professional qualification in Endovascular Vascular Surgery. He received an educational and scientific degree "Doctor". Dr. Nikolov is an established professional, mastering and applying in practice all modern methods of diagnosis and therapy in vascular surgery. The candidate is a member of prestigious national and international societies in the field of vascular surgery. His scientific publications and work are completely sufficient in volume, content, significance, degree of novelty and justification of scientific achievements, covers the requirements of the Law on Scientific Research and the Regulations on the terms and conditions for acquiring scientific degrees and holding academic positions in "National Heart Hospital" to the academic position of "Associate Professor".

Based on the Regulations on the terms and conditions for acquiring scientific degrees and holding academic positions in "National Heart Hospital", the Terms and conditions for acquiring the academic position "Associate Professor", Dr. Nikolov, MD, **meets the requirements to hold this position.**

Based on the analysis of the scientific works and his teaching qualities, I propose that Dr. N. Nikolov, MD, be elected "Associate Professor" for the needs of the Department of Vascular Surgery at "National Heart Hospital".

Date 27.05.2021

Sofia

  
Prof. Mario Stankev