

STATEMENT

by **Assoc. Prof. Dr. Elitsa Georgieva Deliverska-Aleksandrova, Doctor**
Department of Dental, oral and maxillofacial surgery, FDM, MU - Sofia, member
of the Scientific Jury
according to order No. R-109-392/03.10.2022 of the Rector of MU - Varna

Regarding: acquisition of the educational and scientific degree "doctor" in the field:
Higher education: 7. Health care and sports; Professional direction: 7.2. Dentistry

Dissertation on: " Maxillary sinus floor elevation with lateral approach – imaging,
clinical and experimental research "

Author: **Dr. Desislava Kirilova Stoyanova**, doctoral student – full-time form of
studies, according to the procedure for acquiring the educational and scientific degree
"doctor", Faculty of Dental Medicine, Medical University - Varna.

Doctoral program: "Therapeutic Dentistry"

Scientific supervisor: Prof. Stefan Peev, DrMSc.

Assoc. Prof. Dr. Nikolay Sapundzhiev, doctor

1. General presentation

This opinion was prepared based on the order of the Rector of MU - Varna No.
R-109-392/03.10.2022.

The produced set of materials on paper and electronic media is in accordance
with Art. 44 (3) of the Regulations for the Development of the Academic Staff at the
MU - Varna.

The doctoral student has attached 3 publications on the topic of the
dissertation, which meet the minimum national requirements (by groups of
quantitative and qualitative indicators) according to the Rules for development of the
academic staff in the Republic of Bulgaria, criteria for the defense of a dissertation for
the educational and scientific degree "Doctor".

2. Biographical reference for the doctoral student

Dr. Desislava Kirilova Stoyanova was born on 10.06.1986 in the city of Varna.

- 2006-2012 – master's degree – doctor of dental medicine, Faculty of Dental
Medicine of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna.

- 2013-2015, Master's degree, specialty "Health Management", Medical
University - Varna.

- 2014-2017 - specialist, "Dental Implantology" specialty, Medical University -
Varna.

- 2017-2022 - assistant, specialty "Dental Implantology, Department of
Periodontology and Dental Implantology, Faculty of Dental Medicine, Medical
University - Varna.

- 2020-2022 - specialist in periodontology and diseases of the oral mucosa,
Faculty of Dental Medicine, Medical University - Varna.

- 2020-2022 - administrative assistant in the Department of Periodontology and
Dental Implantology at the Faculty of Dental Medicine at the Medical University -
Varna.

- 2021-2022 - quality auditor in the Medical-Dental Center at the Faculty of

Dental Medicine of the Medical University - Varna.

– 2021 – Pedagogical competence – level I.

Dr. Stoyanova holds practical exercises in periodontology for students majoring in "Dental Medicine" (4th and 5th year), and participates in practical exams. She also holds lectures, practical exercises and conducts theoretical exams in the disciplines "Organization of the work process", "Pre-treatment behavior", "Assistance in diagnostic and treatment procedures" in a professional training course for the profession "Dental Assistant" at the Vocational training center of the MU – Varna.

She has successfully completed postgraduate professional qualification training for the acquisition of theoretical and practical skills on various topics related to scientific and clinical interests.

Good written and spoken level of English and Spanish.

Member of the Bulgarian dental association, BAOI, ITI.

3. Relevance of the dissertation work

In her dissertation work, Dr. Desislava Kirilova Stoyanova treats a serious and significant problem for dental implantology and surgical practice, related to lift of the sinus floor with lateral access. A functional atrophy of the alveolar ridge after tooth extraction leads to a loss of bone volume, especially in the distal areas of the upper jaw, which necessitates in a large percentage of cases the need for bone replacement procedures aimed at increasing bone volume for subsequent implantological treatment. This procedure can provide more favorable conditions for the placement of dental implants, contributing in the long term to a better functional and aesthetic result. In this sense, the topic of the dissertation is of interest for clinical practice in the field of oral surgery and dental implantology. A primary goal of every clinician is to apply established conventional and modern methods for the rehabilitation of patients with fixed structures, especially in treatment with dental implants.

4. Characterization and evaluation of the dissertation work and knowledge of the problem

Dr. Stoyanova shows in-depth knowledge of the subject being developed.

She demonstrates independent research skills, has performed a detailed and thorough literature review on guided bone regeneration, bone substitutes and barrier membranes, augmentation procedures for maxillary sinus floor lift; including under endoscopic control; of digital techniques in dental implantology and 3D printing.

The dissertation is written on 136 pages, illustrated by 44 figures, 23 tables and 6 appendices; two practical applications. The bibliography includes 180 sources, of which 5 are in Cyrillic and 175 are in Latin. The development in structure meets the criteria for a dissertation work.

The presentation is written in good scientific language. The presented literature review is comprehensive and thorough, with a marked analytical attitude of the doctoral student to the problem under consideration, which shows her good theoretical preparation; highly informative and the problems related to the sinus lift

procedure with lateral access in subantral bone deficiency are clearly and motivatedly explained. The presented problem does not cause doubt that it should be studied, since at the current stage the topic is debatable from various aspects and there is not enough objective research on real specific difficulties, the avoidance of which can optimize clinical work.

Dr. Stoyanova's good theoretical and practical training make it possible to clearly formulate the correctly selected goal of the dissertation - to study the possibilities for optimizing the intervention for lift of the floor of the maxillary sinus. The formulated tasks are sufficient for presentation and detailed discussion of the problems related to the application of the lateral sinus lift.

The realization of the goal was achieved through the implementation of four accurately formulated **tasks**:

1. To prepare a specification of the available subantral bone in cases of maxillary sinus floor lift.
2. To analyze the methods for the application of implants in conditions of subantral deficiency compared to the available subantral bone in the cases of maxillary sinus floor lift.
3. To explore the possibilities of endoscopic access.
4. To analyze clinical observations on access for endoscopic control during maxillary sinus floor lift.

Material and methodology

The clinical material selected for the fulfillment of the set goals and tasks is completely sufficient for the development of a dissertation work. The study design for Tasks 1 and 2 is a retrospective study of preoperative cone beam computed tomography (CBCT) images taken at the Department of Radiology at the University Medical Dental Center (UMDC) of patients undergoing an augmentation procedure on maxillary sinus floor lift with lateral access, unilateral or bilateral, with immediate or delayed placement of dental implants for the purpose of rehabilitation of the masticatory apparatus in the period 2014–2021 by dentists. A total of 76 patients were selected and examined with three-dimensional images of the entire upper jaw and maxillary sinuses, in which no change was observed in the sinus mucoperiosteum, i.e. the thickness of Schneider's membrane ≤ 2 mm.

The methods (clinical, diagnostic, radiographic, therapeutic and statistical) applied to the implementation of the assigned tasks were precisely selected and presented and enabled the doctoral student to obtain significant qualitative and quantitative original and reliable results. The methods are modern, based on good medical practice and correspond to the set goals and objectives.

According to the third task, three-dimensional simulation models were made from selected 20 preoperative CBCT images from the cases considered in task 1. The selected images are from preoperative CBCT images of patients (10 male and 10 female patients) who underwent bilateral sinus floor elevation with a lateral approach and measured the height of the available subantral bone in the areas undergoing the augmentation procedure by raising the floor of the maxillary sinus between 2 and 4 mm.

On the third task, three-dimensional simulation models were made from

selected 20 preoperative CBCT images from the cases considered in task 1. The selected images are from preoperative CBCT images of patients (10 male and 10 female patients) who had undergone bilateral sinus floor lift with a lateral approach and measured the height of the available subantral bone in the areas undergoing the augmentation procedure on maxillary sinus floor lift between 2 and 4 mm.

According to the 4th task, a prospective clinical study was conducted at the University Medical and Dental Center (UMDC) with included twenty-three patients who had undergone a planned unilateral surgical intervention through an endoscopically navigated MSFALA.

The obtained **results** - comprehensively and correctly described, with detailed and thoroughly analyzed data from each indicator previously laid down in the methodology of the scientific study, and their interpretation, as well as the presented publications related to this work, show that they are the personal work of the author.

The discussion of the results was done correctly. The good visualization and the competent approach of the doctoral student in the interpretation of the obtained data, systematized by tasks, make an excellent impression.

The dissertation ends with **conclusions** correlating with the tasks set, based on the results obtained, the discussion and the summaries and analyzes made from the study. The conclusions are formulated optimally, with an emphasis on the contributions in the dissertation work.

A number of important **conclusions** have been made for clinical practice. The conduct of experimental studies on 3D models of real patients who underwent sinus lift surgery, as well as the collaboration with an ENT specialist in the conduct of endoscopic examinations, makes an excellent impression. 3D FDM printed anatomical simulation models can be incorporated into preoperative preparation and planning of surgical manipulation in order to understand the individual anatomy of certain objects through their visualization, as well as serve as a physical object for training in performing specific surgical techniques, with which the operator to improve his dexterity. The height of the available subantral bone where a lateral access sinus floor lift with one-time implant placement is undertaken takes on a wider range. It is established that for the needs of dental implantology, when performing an endoscopically guided sinus floor lift procedure, it is appropriate for the endoscopic access to be performed through the fossa canina.

5. Contributions and significance of the dissertation work

The dissertation contains original contributions of a confirmatory and applied scientific nature, which logically follow the results of the conducted research and are undoubtedly significant for modern clinical practice.

6. Personal participation of the doctoral student

The dissertation work shows that Dr. Stoyanova possesses in-depth theoretical knowledge and professional competence, knows modern specialized literature and demonstrates qualities and skills for independent conducting of scientific research and obtaining real and reliable results. The conducted research and observations of patients and the resulting conclusions and contributions in the dissertation work are the personal work of the author.

7. Abstract

The abstract fully corresponds to the content of the dissertation work, accurately reflects the highlights and was developed in accordance with the requirements of the Law on the development of the academic staff in the Republic of Bulgaria and the regulations of MU - Varna.

8. Notes and recommendations

At the end of the literature review, the author could make a short analysis in which at least to schematically present the unresolved problems on the subject and argument the need for further targeted research.

9. Conclusion

The topic chosen by Dr. Stoyanova for her dissertation work " Maxillary sinus floor elevation with lateral approach – imaging, clinical and experimental research" concerns an interesting and debatable problem in dental implantology. The scientific development is well structured, with sufficient material and properly selected methods, consistent with good medical practice. Credible results with theoretical and applied contributions have been obtained. The research is relevant given the wide application in clinical practice of treatment with dental implants and the need to increase the awareness and competencies of dental doctors in daily clinical practice for successful treatment.

Based on this conclusion and my personal impressions, I strongly appreciate the dissertation work on the topic "Maxillary sinus floor elevation with lateral approach – imaging, clinical and experimental research", which fully meets the mandatory minimum requirements according to the Law on the Development of the Academic Staff in the Republic Bulgaria and the Regulations on the terms and conditions for acquiring scientific degrees and occupying academic positions of the Medical University - Varna, and I give my positive vote for **Dr. Desislava Kirilova Stoyanova** to acquire the educational and scientific degree "Doctor" in the scientific specialty "Therapeutic Dentistry" .

Sofia, 18.11.2022

Opinion prepared by:

(Assoc. Prof. Dr. Elitsa Georgieva Deliverska-Aleksandrova, MD)

