To the **Chairperson** of the Scientific Jury
Appointed by Order No. P-109-468/09.12.2024
of the Rector of the Medical University - Varna.

R E V I E W

by **Prof. Dr. Rosen Gospodinov Kolarov, PhD**

Medical University – Varna, Faculty of Medicine,

Department of General and Special Surgery

Regarding:

Dissertation for the award of the educational and scientific degree **"Doctor"**
Field of Higher Education: 7. Healthcare and Sports
Professional Field: 7.2. Dental Medicine
Doctoral Program: "Surgical Dentistry"

Author: Dr. Stole Zafiroski
Doctoral candidate in independent preparation,
Department of Oral Surgery, Faculty of Dental Medicine,
Medical University – Varna

Title:
"Anesthesia in Oral and Maxillofacial Surgery"

Scientific Supervisors:
Prof. Dr. Tihomir Georgiev, DSc, and Prof. Dr. Viliyan Platikanov, DSc

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General Overview of the Procedure and the Doctoral Candidate

This review has been prepared based on Order No. P-109-468/09.12.2024, issued by the Rector of the Medical University – Varna, appointing a Scientific Jury for the public defense of the dissertation.

The submitted materials, both in paper and electronic format, comply with the **Regulations for the Development of the Academic Staff at the Medical University – Varna.**

Dr. Zafiroski has provided **four publications** related to the dissertation topic.
All documents are properly prepared and submitted.

Brief Biographical Information about the Doctoral Candidate

- **Born:** July 31, 1982
- **Education:**
  - **2012**: Master's Degree in Dental Medicine, Faculty of Dental Medicine, Medical University – Varna
  - **2018**: Specialty in **Oral Surgery**
  - **2023**: Master's Degree in **Medicine**
  - **2023**: Master's Degree in **Public Health and Health Management**
- **Professional Experience:**
  - **2013–2018**: Assistant Professor, Department of Oral and Maxillofacial Surgery
  - **2018–Present**: Administrative Assistant, Departments of Oral and Maxillofacial Surgery and General and Operative Surgery

Memberships:

- **Bulgarian Dental Association (BDA)**
- **Bulgarian Medical Association (BMA)**

Languages Spoken:

- English (fluent, written and spoken)

Relevance of the Topic and Appropriateness of Objectives

The dissertation addresses a timely and important issue in dental and medical science and practice.
The research goal is clearly stated, and the tasks are well-defined and executed using modern research methods.

Understanding of the Problem

Dr. Zafiroski demonstrates deep knowledge of his research topic and independent research skills. The dissertation is well-written in a scientific style.

Based on a review of previous studies, the research aim is defined as follows:
"To determine the prevalence and characteristics of various local and general anesthesia methods in outpatient dental and maxillofacial surgery."

Research Methodology

To achieve the research goal, four main tasks are set:

1. Study of local anesthesia applications in oral surgery.

2. Study of sedation and general anesthesia applications in oral surgery.
3. Study of local anesthesia applications in maxillofacial surgery.
4. Study of sedation and general anesthesia applications in maxillofacial surgery.

Study Design

Dr. Zafiroski proposes an original research hypothesis, emphasizing that anesthesia in oral and maxillofacial surgery has significantly evolved in recent years, leading to a reduction in complications and the increased use of anesthesia and sedation in patients with comorbidities.

Materials and Methods

The study was conducted from 2019 to 2021, covering 1,794 patients:

- 1,024 patients from the Clinic of Maxillofacial Surgery, St. Marina University Hospital, Varna
- 770 patients from the University Medical and Dental Center (UMDC), Faculty of Dental Medicine, Medical University – Varna

Data Collection Sites:

- St. Marina University Hospital, Varna
- University Medical and Dental Center, Medical University – Varna

Research Period:

- 2019–2021, with all results recorded in a structured clinical database.

Selection Criteria:

Inclusion Criteria:

- Patients who provided informed consent.
- Patients requiring oral or maxillofacial surgery.
- Patients without systemic diseases requiring hospitalization.

Exclusion Criteria:

- Patients who did not provide informed consent.
- Patients with temporary contraindications for surgery.

Statistical Methods Used:

- IBM SPSS v.20.0
- ANOVA (variance analysis)
- Pearson & Spearman correlation analysis
- Regression analysis
- Chi-square (χ^2) and t-tests

Results and Discussion

The dissertation consists of 134 standard pages, illustrated with 50 tables and 12 figures. The literature review includes 287 references, all in Latin script.

The findings are clearly structured, thoroughly analyzed, and well-interpreted.

Key Conclusions:

1. Articaine is the most commonly used local anesthetic.
2. Terminal anesthesia is the most commonly used method in outpatient oral surgery.
3. Maxillary procedures predominantly use terminal anesthesia, with conduction anesthesia used only in rare cases (e.g., abscesses).
4. Mandibular procedures predominantly use conduction anesthesia.
5. Dental implants are always placed under terminal anesthesia.
6. Weisbram's technique is the most commonly used conduction anesthesia method.
7. Healthy patients primarily receive local anesthesia, regardless of the procedure.
8. Midazolam + Articaine is the most commonly used sedation protocol.
9. Propofol + Articaine or Lidocaine is the most commonly used general anesthesia protocol.
10. Sedation is mainly used for short procedures in patients with cardiovascular diseases.
11. General anesthesia is used for longer surgeries and multiple simultaneous procedures.
12. Older patients are more likely to receive general anesthesia.
13. Comorbidities are more severe in older patients.
14. Local anesthesia use in maxillofacial surgery is relatively low.
15. Longer surgeries require general anesthesia.
16. Hematoma is the most common local anesthesia complication.
17. Syncope is the most common general anesthesia complication.

Scientific Contributions

Original Contributions:

1. First in Bulgaria: In-depth study of anesthesia use in both outpatient and inpatient settings.
2. Increased use of sedation and general anesthesia in modern oral surgery for anxious and uncooperative patients.

Confirmatory Contributions:

1. Maxillary procedures mainly use terminal anesthesia.
2. Mandibular procedures primarily use Weisbram's conduction anesthesia.
3. Dental implants are placed under terminal anesthesia only.
4. Articaine is the most commonly used local anesthetic.
5. Sedation is used for short, quick procedures in patients with cardiovascular diseases.

Final Evaluation

Dr. Zafiroski demonstrates **deep theoretical knowledge and strong research capabilities**. The dissertation **meets academic standards** and has **high scientific and practical value**.

I give a positive evaluation and will vote **"YES"** for awarding Dr. Stole Zafiroski the degree **"Doctor"** in **Surgical Dentistry**.

Date: February 12, 2025

Review

Prof. Dr. Rosen Gospodinov Kolarov, PhD