

DENTAL LASERS THE CHALLENGE OF MODERN DENTISTRY



УНИВЕРЗИТЕТ
ГОЦЕ ДЕЛЧЕВ

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INTRODUCTION

By using laser light in dentistry, numerous interventions can be performed on hard and soft tissues in the oral cavity. Although lasers have not yet succeeded in replacing conventional instruments and techniques, their **numerous advantages** are the reason why they have begun to be used more often.

MATERIAL AND METHODS

Literary search of various databases - scientific papers, predominantly on PubMed.

Papers of various types were covered, such as: published paper (Journal Article), clinical trial, randomized controlled trial review papers, comparative study.

LASER BEAM FORMATION

- ❖ Laser is a device through which laser light is created and emitted through the process of light amplification (amplification) based on stimulated emission of electromagnetic radiation.
- Features:
- Focused light;
- Laser light - monochromatic, coherent and parallel;
- Stimulated emission;
- Population inversion;

INDICATIONS FOR USE OF DENTAL LASERS

- Treatment of periodontal diseases.
- Removal of caries lesions.
- Teeth whitening.
- To perform a biopsy.

INDICATIONS FOR USE OF DENTAL LASERS

- Oral soft tissue procedures.
- Treatment of pulp and periapical changes.
- Treatment of a frenulum on the tongue or lips.
- Treatment of aphthous and herpetic lesions.

DENTAL LASERS



Soft tissue diode laser

ADVANTAGES OF USING DENTAL LASERS

- Precision;
- Ease to use;
- Bactericidalilty;
- Sterility;
- Hemostasis;
- Minor post-operative trauma.

RESULTS AND DISCUSSION

- Deppe, Herbert, and Hans-Henning Horch said in 2007 that the laser would be a tool without which no dental office could function.
- Kovacevska, Ivona reported in 2015 that lasers can provide a safe, effective, non-chemical alternative during endodontic treatment.
- Papakoca, Kiro, / Petrovski, Mlhajlo stated that In modern dentistry, the use of dental lasers is of particular benefit in improving treatment, both in the surgical and in the post-surgical phase in dental implantology.

CONCLUSION

Dental lasers, as a modern tool, have numerous indications in everyday dental practice. Also, the numerous advantages that the laser possesses as a tool should be the reason for its increasing use in performing various types of dental interventions. However, the use of lasers is reduced to a small number of interventions that are related to the knowledge and routine of the clinician. By introducing modern educational programs, as well as additional education, this situation can be improved.

**THANK YOU FOR YOUR
ATTENTION!**

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