Abstract:

Er: YAG laser is a new method of preparation that promises gentler and more accurate dental treatment. Its specific characteristics is large absorption of the beam in the water and a small absorption in the tissue without the thermal effect. Therefore the treatment is safer and effectiver.

The research has the aim in its theoretical - cognitive part to assess its advantages in comparison with treaditional treatment method - drill. As an essential element will be evaluation of caries lesion in vitro and in vivo. The size of the cavity will be judged on, the shape of developing a smear layer and retention surface in relation to the filling and the .
The extracted teeth will be scanned in electronic microscope to assess the formation of contact and non-contact preparation, focusing on the shape and size of the prepared lesion in relation to modern filling materials - low viscosity composites.

Extensive research supported by the Ministry of Health (IGA : 9991-4 and 13351-4) that focuses on the the use of various therapeutic methods in the treatment of special needs patients. Dental treatment of a special needs patients is expensive and time-consuming than conventional dental treatment. Therefore, clinical application of theoretical cognitive part will create a electronical support system for the treatment of these patients. The system should be used for faster orientation and create a formula to treat patients who have a handicap due to their non-standard mode of therapy.
This paper quantitatively evaluates the benefits of treatment with Er: YAG laser and creates a system that will provide the transparent options that should be considered for the care of special needs patients.