

Uses of diode lasers in dentistry

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Abstract

Lasers are used in soft and hard tissues treatment and can be classified to various types of laser used in treatment like He-Ne (632.5 nm), diode lasers with various wavelengths 810, 940, 980, 1064 nm, Nd: YAG (1064 nm), CO₂ (10600, 9600, 9300 nm), Er: YAG (2940 nm) and Er, Cr: YSGG (2780 nm). One of the most dominant lasers that used in dentistry are diode lasers with their different wavelengths, so I decide to make a workshop about applications of specific wavelength of diode lasers in dentistry. It will be classified to two parts theoretical part and practical part. Theoretical part will discuss overview of history of lasers, laser physics and how it works, classification of lasers according to the wavelengths and active medium, tissue interactions with lasers (photo-thermal, photochemical), different wavelengths that used in dentistry, laser safety and precautions, physical parameters of lasers and finally dental applications of lasers such as gingivectomy, gingival depigmentation, removal of fibroma, treatment of hemangioma, effect of lasers in pocket decontamination, endodontic canals disinfection and the effect of photobio-modulation. The other part or the second one will be practical part and the candidates will learn how to manipulate the laser device and adjust the parameters like power, energy and time and there will be hands on training on sheep heads with diode laser. Finally the candidates will have a strong knowledge and background about dental lasers, how to differentiate between different wavelengths and their applications in dentistry.

Biography:

Mohammed Mohsen Abdelfattah has completed his BDS from Faculty of Oral and Dental Medicine, Cairo University, Egypt and his MSc degree in Laser Dentistry from Genova University, Italy. He has published some articles about lasers in dental applications in different international journals and has been Reviewer in lasers in dental sciences journal. He has completed his Diploma in Lasers in Dental Applications in Enhanced Laser Institute.