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LASER ACTIVATED IRRIGATION (LAI)

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The fundamental aim of dentistry is to maintain healthy natural dentition, while the main goal of endodontic treatment is to preserve functional teeth. During the endodontic treatment the pulp tissue, bacteria and bacterial products are removed. Endodontic treatment is complex procedure and for success, we have to follow strict protocol: accurate diagnosis, access cavity preparation, shaping and irrigation – chemomechanical preparation, obturation and final restoration. Until recently, mechanical instrumentation was the most important part of endodontic treatment, but more than 35% of the root canal surface remained untouched by instrumentation. Furthermore, during the instrumentation dentin debris and smear layer are produced. Biofilm, smear layer and dentin debris may be removed only by irrigation; therefore, different irrigation techniques (manual and mechanical) have been developed. One of the latest is LAI (laser-activated irrigation). Laser can be used in two ways: (1) directly, by irradiating the dentinal wall (CLE-conventional laser endodontology), or (2) indirectly, by irradiating/activating photoactive substances (PAD – photo activated disinfection) or irrigants (LAIs.I.). Erbium laser family presents one of the newer technologies in

endodontics for activation of irrigants. The basic principle of LAI is producing the bubble that leads in three-dimensional flow of irrigants. According to the fiber/tip position in root canal system the latter is further divided into LAIs. and PIPS (photo induced photoacoustic streaming). Compared to other techniques, PIPS is very well defined by protocol of irrigation that includes laser parameters, tips, tip position, and propose the final sequence for irrigants with concentrations, supported by research results.

Biography

Barbara Škrlić Golob has graduated at University of Ljubljana (Slovenia), Faculty of Medicine, Department of Dentistry, in year 2000. In 2007, she started with private practice. In 2011, she got involved in first Laser Workshop in Aachen where she received a Certificate of LSO and AALZ Dental Laser. One year later, she received PIPS Certificate awarded by Professor Giovanni Olivi from Rome. In 2016, she got MSc degree in Laser dentistry in University of Genova and in 2017 she finished another MSc degree at the University of Torino, Master in Clinical and Surgical Microendodontics, under supervision by Professor Elio Berutti.

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