

WFLD
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In Conjunction with
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Selective removal of carious dentin using a novel mid-infrared wavelength "6.02 micro meter"

Hall 2 | 10:45 – 11:00

The objective of this study is to develop the less-invasive treatment technique of carious dentin by selective absorption effect using the laser with a wavelength of 6.02 μm which corresponds to an amide 1, band. The irradiation condition of 6.02 μm wavelength, 20 W/cm² average power density and under 30 s irradiation time realized to remove a decalcified region selectively in a scanning electron microscope observation. In the same energy condition, serious side effect was not observed on the surface of normal dentin. The wavelength of 6.02 μm is a novel and promising technique toward to next-generation dental treatment procedure.



**Abad-Sánchez Daniel*,
España-Tost Antonio,
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DDS
Emdola Postgraduate

Clinical evaluation of low level laser (660nm) for the treatment of dentinal hypersensitivity .

Hall 2 | 11:00 – 11:15

The aim of this study was to evaluate the efficacy of the diode laser 660nm for the treatment of the dentinal hypersensitivity following the scaling and root planning. Twenty patients (age 18-65) who treated for scaling and root planning (SRP). The study design was an split-mouth randomized and prospective. Laser treatment consists in a diode 660nm laser with 30mw power and 20 Hz .Each tooth of upper or lower maxillary was treated during sixty seconds. The measurements of dentinal hypersensitivity was recorded with and VAS scale at baseline (one week of SRP) and one week and one month after laser treatment. All patients who treated with SRP showed an dentinal hypersensitivity in almost 50% of teeth. The maxillary upper/lower zone treated with laser showed and significance reduction in dentinal hypersensitivity at baseline (85%), one week post laser (60%) and one month after laser treatment (45%) when it was compared with the control zone. Based in our findings we conclude that low-energy biostimulative laser treatment can be successfully used for treatment of dental hypersensitivity following scaling and root planning.



A Bagheri*, R Fekrazad

DDS, MSc
Assistant Professor

Effects of photodynamic therapy in treatments of malignant and premalignant of oral and maxillofacial.

Hall 2 | 11:15 – 11:30

Photodynamic therapy is a recently developed treatment involving the use of photosensitizer and special laser light. Photosensitizers are chemical or synthetic that are first generation hematoporphyrin

and it is commonly photofluorescing the cancerous cells. The photosensitizers are 5-Aminolevulinic Acid and meta-tetrahydroxyphenylchlorine (mTHPC). Lasers are the preferred source of light for PDT. Diode lasers commonly red light 630 to 780nm and have high power out put , portable and easy to use. We have treated advanced cancers who have exhausted other treatment modalities to achieve significant clinical benefit and improvement in quality of life with PDT specially mTHPC and new specific photosensitizers.



**Luciane H. Azeredo*,
C. Galletta, Carlos de Paula,
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Oral varix treated by photocoagulation with argon-pumped diode laser

Hall 2 | 11:30-11:45

The purpose of this study was to evaluate the effectiveness of photocoagulation with high-intensity diode laser for the treatment of oral varix (VAR). VAR is an acquired benign vascular malformation characterized by tissue loosening and increased venous pressure. VARs are usually found on the tongue, lip or cheek. Although they are usually asymptomatic, they can bleed if injured. Ten patients were treated with a noncontact diode laser. Seven patients were treated with one irradiation exposure, while three needed a secondary session in one case. Healing was complete in all cases. Postoperative discomfort and scarring were not observed. Results were minimal. Photocoagulation is an effective, feasible procedure.



**R Fekrazad, S Rikhtegaran, M
Sadighi***

The use of laser fluorescence in detection of dentinal cracks

Hall 2 | 11:45-12:00

Dentinal cracks should be considered crucial in the diagnosis of them could prevent severe tooth decay. The use of microscope at magnification levels of 40x and 100x allowed the detection of cracks before cracked teeth become symptomatic. The fluorescence based device (Diagnodent) which is usually used for caries detection, has been used to detect dentinal cracks in recent basic study. The use of Diagnodent and methylene blue (MB) dye on detection of dentinal cracks.

Materials and Methods : Dentinal cracks were induced on 60 extracted human teeth. Cracks parameters recorded were stereomicroscope, The Diagnodent values recorded in the presence of MB solution. Statistical analysis was performed with t-test. p<0.01 was considered significant.

Results : Diagnodent values has significant relationship with crack features and parameters.

Conclusion : Laser fluorescence based device (Diagnodent) could be used to detect and evaluate dentinal cracks.