

SPLINTING OF PERIODONTALLY INVOLVED TEETH : ENAMEL TREATMENT USING Er:YAG LASER

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CLINICAL REPORT

AIM OF THE STUDY

Tooth mobility has been described as an important clinical parameter in predicting periodontal therapy prognosis. For this reason and for patient comfort, splinting has been recommended therapy to stabilize teeth. This technique is the most conservative technique possible. Splint allows at least temporary immobilization of the mobile treated tooth to obtain osseous regeneration but especially restoration of epithelial attachment while eliminating occlusal parafunctions.



TECHNIQUES TO PREPARE ENAMEL SURFACES

LASER

- Er:YAG laser fluence 36J/cm²
- LP (600µs)
- 180mJ
- 10Hz
- sapphire tip 0.8mm
- contact mode
- air/water spray (15/25)

CHEMO-MECHANICAL

- 37% phosphoric acid gel (3M Scotchbond)
- Porcelain Prep Kit (Pulpdent)
- Primer&Bond NT™ unidose (Dentsply)
- Filtek Flow™ A3 (3M Espe)
- Fiber-Splint™4mm (Polydentia)



Ultra-fine strip of glass fiber with metal matrix

This technology represents a significant help in the adhesive dentistry practice (absence of vibrations, comfort, fast technique, patient's satisfaction) and particularly in non invasive dentistry.

Er:YAG laser Fidelis Plus II™ (Fotona, Slovenia)

Laser parameters: sapphire tip 0.8mm, contact mode, air/water spray, LP (600µs), 180mJ, 10Hz (fluence: 36J/cm²)

■ CASE 1 C. M. male, periodontal disease



Preoperative clinical view



Enamel preparation with Er:YAG laser



Etching with phosphoric acid gel



Adhesive



Installation of splint with grips



Adhesive



Light cure (10 sec/tooth)



Flowable composite resin



Light cure (20 sec/tooth)



After polymerization



Finishing



Clinical result

■ CASE 2 L. B. female, periodontal disease and occlusal trauma



Preoperative clinical view



Operative field



Enamel preparation with Er:YAG laser



Preoperative clinical view



Adhesive after phosphoric acid treatment



Light cure (20 sec/tooth)



Flowable composite resin



Installation of splint



Fixation of splint with dental floss



Flowable composite resin



Light cure (20 sec/tooth)



Deposit and finishing