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Cavity Preparation in Deciduous Teeth

Zafer Kazak

Parameters:

	Carries Removal	Carries Removal	Etching	Gingivectomy
Laser source	Er:YAG (2940 nm)	Er:YAG (2940 nm)	Er:YAG (2940 nm)	Er:YAG (2940 nm)
Mode	MSP	SP	MSP	LP
Power / Energy	180 mJ	180 mJ	120 mJ	150 mJ
Frequency	15 Hz	15 Hz	10 Hz	12 Hz
Handpiece	R02	R02	R02	R02
Water/Air Spray Setting	5/4	5/4	none	5/4

Treatment procedure:

A systemically healthy 8-year-old male patient was referred to our clinic with a carious lesion that extended beyond the gingival margin on tooth IV on the left upper jaw. We decided to use Er:YAG laser for the treatment, because the removal of carious lesions is more precise, without removing healthy tooth tissue. Without using local anesthesia, the decayed part of the tooth was removed with the tip-less Er:YAG handpiece in SP mode. The child was very calm, because no mechanical vibrations were felt. Cavity preparation and surface laser etching prior to acid etching were done with slightly adjusted parameters to provide a stronger bond between the resin and the tooth.

As the lesion extended beyond the gingival margin, the Er:YAG laser in LP mode was used for a gingivectomy. The teeth were restored with composite resins. The last photo shows the situation 3 days after the restoration, with perfect gingival margin.

The child had an unpleasant prior experience with rotary instruments, so the parents of the patient were very happy with the result of the treatment as the procedure lasted for a short time and as no local anesthesia was applied.



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Before procedure



During procedure



Three days after procedure