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[\[PDF \(1518K\)\]](#) [\[References\]](#)**Removal of root canal filling materials using Er:YAG laser irradiation**[Hideyuki TACHINAMI](#)¹⁾ and [Ichiroh KATSUUMI](#)¹⁾

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Abstract:

The purpose of this study was to examine the ability of Er:YAG laser to remove root canal filling materials. The root canals of 21 extracted human anterior teeth were enlarged, and then obturated with gutta-percha points and sealer by lateral condensation. Filling materials were removed from root canals using Er:YAG laser irradiation at three energy output levels (30, 40, and 50 mJ/pulse), and the corresponding time required for material removal at each energy output level was recorded. The amount of remaining filling material and the degree of dentin ablation in the canal wall were assessed using microfocus X-ray CT before and after removal. At 30 mJ, the time required for root canal filling material removal was significantly longer than at energy outputs of 40 and 50 mJ ($p < 0.01$). On filling material remnants and the degree of dentin ablation, these parameters were not significantly different among the three energy outputs. In conclusion, these results suggested that Er:YAG laser irradiation is capable of removing root canal filling materials.

Key words:[Er:YAG laser](#), [Root canal retreatment](#), [Root canal filling material](#)[\[PDF \(1518K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)[BibTeX](#)

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