# Efficiency of NaOCl and laser-assisted photosensitization on the reduction of *Enterococcus faecalis* in vitro

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***Objective.*** To investigate the action of a red laser associated with a photosensitizer on the reduction of *Enterococcus faecalis* in dental root canal in vitro.
***Study design.*** Thirty prepared teeth with single canals were contaminated. The chemical group was irrigated with 0.5% NaOCl and left flooded for 30 minutes. In the laser group, a paste-based photosensitizer was maintained in the root canals for 5 minutes, and then irradiated with a laser at 685 nm using an optical fiber for an E of 1.8 J during 3 minutes. After treatment, the canal content was collected, serially diluted, and cultured to determine the number of colony-forming units.
***Results.*** Photosensitizer alone or laser alone did not have any bactericidal effect. Chemical solution reduced viable bacteria in 93.25%. Laser photosensitization resulted in a reduction of 99.2%, a significantly higher bacterial reduction than NaOCl.
***Conclusion.*** Laser photosensitization was effective for reducing *E. faecalis* in root canals and could be an adjunct to endodontic treatment. **(Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2006;102:e93-e98)**