An Evidence-Based Analysis of the Antibacterial Effectiveness of Intracanal Medicaments

**Author:** Law & Messer  **Year:** 2004  **Journal:** JOE

**Aim**
- To analyze the endodontic literature evaluating the antibacterial effectiveness of intra-canal medicaments in clinical studies.

**Materials & Methods**
- A MEDLINE search was conducted to include only human studies from 1966-2003.
- All studies were required to have a post-instrumentation sample and a post-medication sample, so that the effect of the medicament could be assessed separate from the instrumentation & irrigation.

**Results**
- 5 studies met all inclusion criteria and all investigated the antibacterial effect of Ca(OH)$_2$.
- Overall sample size was 164 teeth.
- Canal preparation was performed with rotary and hand files with final apical preparations ranging from ISO size 25-80.
- Irrigation of the canals involved the use of saline or varying conc. of NaOCl ranging from 0.5%-2% and with Ca(OH)$_2$ placement for 1 or 4 wks as intra-canal medication.
- Outcomes were measured before and after exposure to the intracanal dressing.
- After instrumentation, 62% of all canals registered a +Ve culture.
- After intra-canal medication with Ca(OH)$_2$, 45% of canals still had +Ve cultures.

**Conclusion**
- Main component of antibacterial action during endodontic treatment is associated with mechanical instrumentation and irrigation with NaOCl and EDTA.
- Canals cannot be reliably rendered free of bacteria.
- Ca(OH)$_2$ currently remains the best medicament available.
- To maximize reduction of bacteria in the root canal before obturation, Ca(OH)$_2$ should be used for a min of 7 days.

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