

*An Evaluation of the  
Antimicrobial Activity of Five  
Endodontic Sealers*

*(An In vitro study)*

A thesis

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# *Abstract*

The objective of this study was to evaluate the antimicrobial action of five endodontic sealers after 24 hr and 48 hr. The sealers studied were Canason ,Acroseal , Epiphany , AH-Plus and MTA , while the microorganisms used were *Streptococcus viridans*, *Staphylococcus aureus* and *Enterococcus faecalis*.

Agar diffusion method on Muller Hinton agar was employed , forty five petriplates with 25 ml of Muller Hinton agar were inoculated with 0.1 ml of the experimental suspension . Five cavities , each one measuring 5 ml in diameter and 4 ml in depth , were made in each agar plate using cork poorer and then completely filled with the product to be tested .

The plates were preincubated for 2 hr at environmental temperature followed by incubation at 37<sup>o</sup>c for 48 hr .The diameter of the zones of microbial inhibition were then measured.

The sealers evaluated in this study showed different inhibitory effect. Canason containing eugenol and formaldehyde proved to be the most effective against all microorganisms tested . This was followed by Epiphany ,Acroseal and AH-Plus which showed antibacterial activity on all tested microorganisms higher than that of MTA which showed the least action on all tested microorganisms.

The sustaining period of the antimicrobial action of all types of sealers used in this study was 24 hrs only. No antimicrobial activity was seen after 48 hrs.