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COMPARATIVE EVALUATION OF AEROBIC MICROBIAL LOAD POST DISINFECTION WITH DIFFERENT DISINFECTANTS IN 3 TYPES OF IMPRESSION MATERIALS – AN IN VIVO STUDY

By

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ABSTRACT

Background: - Disinfection of dental impression materials has become an important topic of universal concern. It is generally believed that once an impression is made, saliva, blood, oral bacteria, fungus, and viruses remain on the surfaces of impressions and continue to survive for an ensuing period of time.

Objectives: - To evaluate the efficacy of 5.25% Sodium hypochlorite solution, 2% Glutaraldehyde, 10% Povidone Iodine and Ultraviolet- chamber in reducing the bacterial load on the impression surface of Alginate, Polyvinyl siloxane and Polyether impression material.

Methods: - This study was conducted in the Department of Prosthodontics, Shri Dharmasthala Manjunatheshwara College of dental sciences and hospital, Dharwad. 15 dentate patients who visited the OPD of the department were selected randomly for the study. For each patient, 3 complete maxillary arch impressions were made using alginate, polyvinyl siloxane, polyether.

Results and interpretation: - There was no statistically significant difference in the antimicrobial efficacy of the 3 different disinfectant agents used. Disinfected samples of Polyvinyl siloxane impression material showed statistically significant CFU/ml growth but this was non-significant when compared between the alginate and polyether impression material samples. This indicates that there was no significant difference between the number of CFU/ml and infective bacteria on disinfected and nondisinfected impression surfaces.

Conclusion: - A good rinse with distilled water for commonly used impression materials is sufficient for a healthy oral cavity. The concern about viruses, such as HIV and HBV requires studies with virus specific growth mediums. Proper handling of the impressions and other dental items with emphasis on personal protection is sufficient to block possible routes of infection.

Keywords: - disinfection, impression materials, microorganism, cross infection, hydrocolloid, elastomeric