

27. Evaluation of stress relaxation property of different soft liners after thermocycling and cyclic loading in various time intervals: an in vitro study

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Objectives: Soft liners are being applied beneath the complete dentures in the patients who complain of

chronic soreness because of atrophied submucosa. Various materials have been used for this purpose. The present study was conducted to evaluate and compare the stress relaxation property of four soft lining materials after the application of thermal and mechanical stresses over a period of time (3 months).. Materials and method: 80 specimens were prepared for four commercially available soft liners (20 each). The specimens were prepared with autopolymerizing and heat cure acrylic and silicone lining materials and were subjected to thermocycling and cyclic loading for a period of three months. Stress relaxation property was evaluated at baseline, 1 month and 3 months. Statistical analysis was done by paired t-test and two way anova test.. Results: the mean of stress relaxation property of autopolymerizing silicone was found to be maximum at baseline. At the end of 3 months, the values for heat cure silicones were found to be maximum; although the stress relaxation property was found to be significantly ($p < 0.001$) reduced irrespective of the nature of material.. Conclusion: heat cure silicone liners were found to be superior in terms of stress bearing capacity as compared to autopolymerizing silicones and acrylic based soft liners over a period of time.

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