

Comparison of dimensional accuracy between traditional and Eclipse® Denture Base materials

Dr. Abdulaziz Al-Kheraif^a, Dr Mohamed I. Hashim^b, Dr. Alaa El Araby^c

^a *Assistant Professor, Faculty of Applied Medical Science. King Saud University Riyadh, KSA*

^b *Assistant Professor, Faculty of Applied Medical Science. King Saud University. On leave from Faculty of Dental Medicine (Girls Branch), Al-Azhar University Cairo.*

^c *Associate Professor, Dept.of Restorative Dental Sciences, College of Dentistry, King Saud University. Riyadh, KSA. On leave from Alexandria University, Faculty of Dentistry.*

Abstract: The purpose of this study was to investigate differences between the dimensional stability of teeth distances of standardized simulated denture bases processed by traditional heat-polymerization and those processed by the new light curing system Eclipse. The C-C (canine to canine), M-M (molar to molar), and LC-LM (left canine to left molar) distances were measured with a traveling microscope, with an accuracy of 0.0005 mm. The collected data were submitted to ANOVA and Scheffe's test at 0.05 significance level. There are significant differences between traditional denture base and the Eclipse® denture base at all storage periods. One month after deflasking, with the Eclipse® denture base, dimensional teeth distance values (C-C = 29.55±0.05 mm; M-M = 42.84±0.10 mm; LC-LM= 20.59±0.02 mm) were statistical similar to values of deflasking values (C-C = 29.59±0.01 mm; M-M = 42.86±0.10 mm; LC-LM= 20.64±0.04 mm). Conclusion: Within the limitations of this study, Denture bases processed from the new light cured system (Eclipse®) exhibited significantly better dimensional stability than those processed with traditional acrylic resin packing. Eclipse® denture base material may provide a stronger alternative to traditional denture base resin.