

Effects of an immersion disinfectant and a surface disinfectant on three elastomeric impression materials. R. PUTTAIAH, J. GRIGGS, J. KANABAR, J. D.COON* Baylor College of Dentistry, TAMUS HSC, Dallas, Texas.

Purpose: The purpose of this study was to evaluate compatibility between commonly used elastomeric dental impression materials and two disinfectants (Biosurf surface disinfectant, and Biomers immersion disinfectant, Micrylium Laboratories, Toronto, Canada). **Methods:** Three impression materials (Express® 3M, Aquasil® Caulk-Dentsply, and Take-1® KERR-Sybron SDS) of high and low viscosities were tested in using ANSI/ADA Specification Test #19 for dental elastomeric impression materials. The low viscosity material was applied on to the die surface followed by the high viscosity (simulating clinical use). Physical properties such as surface detail reproduction and dimensional stability when the impression samples were exposed for the manufacturer's recommended time (Treatment Group), and when die-matched samples were immersed in deionized water for the same time (Controls) were measured. Sixteen control and 16 treatment specimens per material per disinfectant comprised the sample for the surface detail reproduction and for the dimensional stability tests. The 25 micron line was studied and given a score from 1 (line completely reproduced with perfect edge detail) through 4 (line not completely reproduced) for detail reproduction, while the length of the 25 micron-wide line was measured after 24 hours using *ImageTool*© UTHSCSA-DS Software and a stage graticule as measurement standard. Two-way repeated measures ANOVA was used for test if disinfectants adversely affected impressions. **Results:** Both impression material ($p < 0.001$) and disinfectant ($p < 0.001$) had significant effects on surface detail reproduction, but only impression material ($p < 0.001$) had a significant effect on dimensional stability.

In this study, the Biomers and Biosurf were found compatible with the three tested elastomeric dental impression materials when applied for the 5 minute disinfection time. Support in part from Diagnostic Sciences, Baylor College of Dentistry and Micrylium Laboratories, Toronto, Canada.