

September 10-11, 2018
Zurich, Switzerland

Prashanthi S Madhyastha, J Dent Craniofac Res 2018, Volume 3
DOI: 10.21767/2576-392X-C3-009

AN *IN-VITRO* EVALUATION OF THE EFFECT OF STORAGE TIME ON PHYSICAL PROPERTIES OF CONVENTIONAL AND EXTENDED-POUR ALGINATES

Prashanthi S Madhyastha

Manipal Academy of Higher Education, India

The purpose of the study was to evaluate the surface detail reproduction, gypsum compatibility and dimensional stability of two conventional and one extended pour alginates at different storage time (0, 1, 3, 5 days respectively). Three alginate materials Coltoprint, Jeltrate and Hydrogum % were tested for surface detail reproduction, gypsum compatibility and dimensional stability in accordance with American National Standards Institute American Dental Association (ANSI/ADA) specification number 18 and 19. The gypsum compatibility was tested using type III dental stone. The parameters tested were analysed between the groups using one way ANOVA & Tukeys post hoc. A repeated measure ANOVA was used for time periods. Alginate type and storage times significantly affected the dimensional stability of impressions and compatibility of casts ($p < 0.001$). In all alginate, no statistically significant differences were found with impressions poured after 0 hours (control) and one day of storage ($p > 0.05$). However, after 3 days and 5 day of storage, Hydrogum 5 was found to be significantly different ($P < 0.05$). Moreover, comparing materials

there was no significant difference up to 5 days ($p > 0.05$). However, Hydrogum 5 may be poured after 5 days, but Coltoprint and Jeltrate should be poured immediately and the storage time should not be more than 24 hours. All the three test materials exhibited linear dimensional change within the ADA's accepted limit of 1.0%. Immediate pouring of alginate provides the highest accuracy in reproducing the teeth and adjacent tissues, with less variability in linear dimensional change. However, this study demonstrates that pouring may be delayed for up to 5 days using extended pour (Hydrogum 5) alginates.

Biography

Prashanthi S Madhyastha has completed her PhD from Manipal Academy of Higher Education (MAHE), Manipal. She is the Member Secretary of Institutional Ethics Committee, Manipal College of Dental Sciences, Mangalore. She has published more than 14 papers in reputed journals.

prashanthi.madhyast@manipal.edu