



ABSTRACT: 2005 IADR/AADR/CADR 83rd General Session & Exhibition

1723 Cement Expansion in Saline

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Recently a new cement has been introduced which bonds to metal, dentin and enamel with a separate etching or priming step. However dimensional stability is a concern with any new cement. **Objectives:** This study measured and compared the linear expansion of five cements when the cements were stored in phosphate buffered saline for four time periods. **Methods:** Five cements were mixed following the manufacturer's directions and placed into a split Teflon mold. The light cured cements were cured with a Spectrum curing light with 550 mW/cm² output. The specimens (n=5/gp) were removed from the mold, measured with a caliper, and stored in a test tube filled with phosphate buffered saline. The specimens were stored in an incubator for the time intervals listed below and measured at each interval. The differences in length were expressed as percent change in length. The data were analyzed with two factor ANOVA and Tukey B post hoc test. **Results:**

CEMENT		48 Hours	1 Week	1 Month	2 Months
Compcore	(A)	0.26	0.76	1.05	1.18
Geristore Syringable	(A)	0.49	0.84	1.08	1.37
Infinity	(A)	0.28	1.28	1.35	1.61
RelyX Luting Plus	(B)	1.93	2.22	2.43	2.79
GC FujiCEM Luting	(B)	1.79	2.01	2.31	3.19

No statistically significant difference was found between groups with the same letter.

Conclusions: The resin-modified glass ionomers GC FujiCEM and RelyX Luting Plus had the greatest expansion. Compcore, Geristore Syringable and Infinity exhibited significantly lower expansion. Low expansion cements should be used with ceramic materials due to their brittle nature.

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