

P03–48**Survival rate of ART restorations in primary and permanent dentitions: meta-analysis****M. BÖNECKER¹, E. STRINGHINI JÚNIOR², L. B. OLIVEIRA¹ & S. MICKENAUTSCH³**

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Introduction: The traditional material for restoring tooth cavities is amalgam. Some time ago a restorative treatment concept, the Atraumatic Restorative Treatment (ART) has emerged. This meta-analysis compares the longevity of single surface ART to that of amalgam restorations in both dentitions over 1, 2 and 3-year periods.

Materials and methods: Eleven databases were searched for articles up to 5 January 2008. Inclusion criteria for articles were: abstracts relevant to topic and published in English, Portuguese or Spanish. Exclusion criteria were: lack of randomization, control group, blinding or baseline data; drop-out rate > 35%. Articles were only accepted if they complied with all the exclusion criteria. Logrank tests and multi-level regression analysis were done ($P < 0.05$).

Results: 222 articles were identified of which 16 were included for further review. Of the 16 articles, 6 were excluded and 10 were accepted. Due to heterogeneity in 3 of them, meta-analysis was possible for 7 articles. Data were compared for 1, 2 and 3 year follow-up periods and showed survival rates for ART restorations of 96.2; 93.9; 85.1% and amalgam 93.7; 88.8; 76.6% respectively. There was a statistically significant difference between the second ($P = 0.0346$) and third year ($P < 0.0001$). The chances of amalgam restorations to fail in relation to the ART were 1.69 (CI 95%: 0.80–3.57) in one year, 1.93 (CI 95%: 1.04–3.57) after 2 years and 1.74 (CI 95%: 1.37–2.20) after 3 years.

Conclusion: The evidence suggests that the longevity of single surface ART restorations using glass ionomer cement is higher after three years than amalgam restorations in primary and permanent teeth.