More evidence to consider resin composite repair instead of replacement . . . (2/10)


In this seven-year, prospective cohort study, the authors assessed the longevity of defective resin-based composite restorations that were either not treated or treated by means of repair, sealing, refinishing or total replacement. Another aim of the study was to identify and quantify the main reasons that clinicians diagnosed restorations as defective. In a dental school environment, 37 patients aged 27-78 years with a total of 88 defective restorations had individual restorations assigned to one of five treatment groups, depending on the patient’s treatment need: repair (n = 25), sealing of defective margins (n = 12), refinishing (n = 19), replacement (n = 16), and no treatment (n = 16). All procedures were accomplished by third and fourth year dental students under faculty supervision. A survival analysis based on US Public Health Service (USPHS) criteria then assessed each restoration treatment at baseline, six months, one year, two years, and seven years after treatment. Results found that the predominant reasons for restorations being deemed defective under the conditions of this study were marginal discoloration (60.2%), marginal degradation (20.5%), and color mismatch (19.3%). Of the 53 restorations that were available for evaluation at seven years, restorations that had margins either repaired or resealed demonstrated zero percent total restoration failure. Eighteen percent of the refinished restorations were noted as being defective, while 21% of the replaced restorations as well as 23% of the untreated restorations were noted as being clinically unserviceable. Based on this evidence, the authors concluded that although all restorations demonstrated a variation in degradation across the assessment criteria, non-replacement treatment strategies, when possible, for resin-based composite restorations remain a viable alternative.

DECS Comment: More evidence is being published from controlled, long-term prospective clinical studies that strongly suggests that restoration repair is more beneficial than replacement when dealing with an isolated, less-than-ideal clinical feature. Early (two-year) results of this study have been previously published which suggested that repair, even in the short term, appeared to provide more promising clinical longevity than restoration replacement. At seven years, the benefits of marginal defect repair are even stronger, and the evaluation’s reliability was found to be consistent over the seven-year evaluation (p = 0.36). All treatments were found to degrade somewhat in the modified USPHS criteria used to evaluate the restorations; however, the repaired and resealed margins remained more stable over the course of seven years. The authors do wisely stress that the decision to repair marginal discrepancies should be taken in consideration of the patient’s caries risk assessment and oral hygiene profile.

References