

Packable Versus Conventional Hybrid Composites (1/06)

Poon ECM, Smale RJ, Yip KHK. Clinical evaluation of packable and conventional hybrid posterior resin-based composites. Results at 3.5 years. J Amer Dent Assoc 2005;136:1533-1540.

The purpose of this study was to evaluate the clinical performance of a packable and a conventional hybrid composite resin in posterior restorations over 3.5 years. Three dentists placed 105 Class 1 and 2 composite resin restorations using either a packable (Surefil, Dentsply) or a conventional hybrid composite resin (SpectrumTPH, Dentsply) and a self-etching adhesive (Prime & Bond with NRC, Dentsply). The restorations were evaluated at 3.5 years using the U.S. Public Health Service – Ryge criteria. Six large packable and two conventional hybrid composite resin restorations failed from bulk fracture and secondary caries, resulting in cumulative survival rates of 81.3 and 92 percent, respectively. Failures occurred only in Class 2 preparations and usually resulted from the bulk fracture of large molar restorations placed in deep preparations. No statistically significant differences were found between the two materials for any of the clinical parameters evaluated (i.e., marginal discoloration, anatomical form, surface texture, surface staining, color match, marginal integrity, gingival health). **The authors concluded that the clinical performances of both composite types were similar and satisfactory for the restoration of Class 1 and moderate-sized Class 2. However, because of the increased risk of bulk fracture, the use of either composite resin type should be avoided in large intracoronal Class 2 molar restorations.**



DECS Comment: This clinical study supports the information gained from previous laboratory studies comparing packable with conventional hybrid composite resins. Laboratory studies have found that, in general, the mechanical properties of packable resin composites are similar to typical hybrid resin composites.¹ Additionally, some studies have found no difference in the tightness or contours of proximal contacts created with either a packable or hybrid composite.^{2,3} The authors state that the advertising claims for these packable materials have been exaggerated and they offer few advantages when compared with correctly-handled conventional hybrid composite resins and total-etch adhesive systems.

References

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3. Peumans M, Van Meerbeek B, Ascherickx K, Simon S, Abe Y, Lambrechts P, Vanherle G. Do condensable composites help to achieve better proximal contacts? Dent Mater 2001;17:533-541.