Abstract

PURPOSE: The aim of this article was to provide an overview of the literature on the currently available bulk-fill composites, and to describe the common trends as well as the wide variations. The findings may help the clinician to select the proper material with regard to its applicability in various clinical situations.

METHODS: The literature up to October 2016 was reviewed based on a PubMed search (keywords: “bulk-fill OR bulkfill OR bulk fill” AND “composite OR composites”).

RESULTS: This review revealed that bulk-fill composites differ most from conventional composites in their increased depth of cure, which could mainly be attributed to an increase in translucency. However, the literature is inconsistent regarding the determination of the depth of cure. Flowable “base” bulk-fill composites seem most suitable for narrow cavities deeper than 4 mm, in particular when a higher adaptation potential thanks to better flowability in less accessible cavity configurations is desirable. In more extensive cavities, “full-body” bulk-fill composites with a high filler load are preferable. Then, resistance against wear and fracture becomes increasingly important, while a thicker consistency might also help in obtaining a good contact point. Tests related to shrinkage stress induced by bulk-filling seem inconsistent and their clinical relevance is unclear.

CONCLUSION: More clinical studies that specifically focus on bulk-filling deep and large restorations are definitely required to fully explore the clinical benefits of bulk-fill composites.

(28443833)

-as supplied by publisher]