

## On our way to Self-Adhesive Restorative Materials 2.0

From the very beginning, it has been the predominant aim of this Journal to elaborate viable ways to improve adhesive dentistry in daily dental practice and promote hypothesis-driven research. After over 20 years of research reported in our Journal, there is no doubt that the successful adhesive restoration of teeth has become a reality. However, it is a common error in restorative dentistry to think that simplified adhesive procedures, eg, using simplified adhesives and/or bulk-fill resin composites, provide a true replacement for amalgam per se. The reason for this is easily explained: Given suboptimal clinical conditions, such as slight saliva contamination, amalgam still works quite well. This cannot be said of bonded materials. Thus, independent of duration or number of working steps, adhesive dentistry still requires fundamental prerequisites for clinical success, and amalgam still is considerably more forgiving.

This special issue contains the thorough in vitro evaluation of a novel self-adhesive restorative material for posterior teeth prior to its marketing in order to cover as many preclinical aspects as possible. Although prospective long-term clinical trials still represent the most reliable way to finally judge a new class of materials for posterior use, this mosaic of valid in vitro research is presented to provide deeper insight into the latest developments regarding self-adhesive bonding technology.

Diverse material aspects of the so-called self-adhesive restorative hybrid 'Surefil One' (Dentsply Sirona) are covered, comprising its fundamental development in the lab, several ways of evaluating its adhesive performance from shear bond to microtensile bond strength in different C-factor situations, its ultramorphological appearance, fatigue behavior for both bulk and adhesive performance, wear behavior, as well as gap formation and fracture susceptibility.

Altogether, the multiple peer-reviewed studies published in this special issue present as complete a picture as presently possible of a novel material in vitro.



Roland Frankenberger



Bart Van Meerbeek

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