

A practice-based evaluation of the handling of Shofu Beautibond

FJ Trevor Burke, and Russell J Crisp evaluate the in-practice handling and use of Shofu Beautibond, a self-etch, light-cured adhesive

Introduction

Practice-based research

The importance of practice-based research has been emphasised by Mandel, who considered that 'research is not only the silent partner in dental practice, it is the very scaffolding on which we build and sustain a practice'¹.

A wide variety of research projects may be considered to be appropriate to general dental practice, including² assessment of materials and techniques, clinical trials of materials, assessment of treatment trends and, patient satisfaction with treatment. In this regard, the volume of clinical material seen in general dental practice makes dental practice an area of fundamental importance in the assessment of new techniques and materials, as success of a material, device or technique could be considered to be its performance in everyday use in a particular dentist's office. Central to good performance of dental materials are, not only, their physical properties, but also their ease of use, since it could be suggested that a device or restorative which handles easily will be more likely to produce an

together to form a group in order to assess the handling of new materials in dental practice, the results are likely to be more objective and generalisable. All of this is possible when practitioner-based research groups are teamed with the expertise available in academic institutions. A UK-based group of practice-based researchers is the PREP (Product Research and Evaluation by Practitioners) Panel. This group was established in 1993 with six general dental practitioners located across the UK, with one in mainland Europe. The group have completed over 60 projects – 'handling' evaluations of materials and techniques, and more recently, clinical evaluations (n=6) of restorations placed under general dental practice conditions, with the restorations being followed for periods of one year and five years.

Bonding materials

Resin composite materials are the mainstay of direct-placement aesthetic materials for anterior and posterior teeth. However, these restorative materials do not have an innate bond to tooth substance and so, a bonding agent



is similar to that to enamel should minimise microleakage and should be biocompatible. They should also be easy to handle, a message not lost on the authors of this paper, since the first bonding agent that they used had five bottles!

It is therefore the aim of this paper to evaluate the in-practice handling and use of Shofu Beautibond (pictured above), a unique, self-etch light cured adhesive with two monomers.

Methods

Instructions to evaluators

Explanatory letters, questionnaires and packs of Beautiful Flow Plus (the subject of a subsequent paper) and Beautibond were distributed in September 2011. Also sent were full instructions and an explanatory document on Giomer technology for Beautiful Flow Plus. The practitioners were asked to use the materials and return the questionnaires.

The evaluators

Ten members (one of whom was female), of average time since graduation 23 years (range 10 to 38 years), were selected at random from the PREP panel.

Clinical evaluation of Shofu Beautibond

All (100%) of the evaluators currently used a dentine/enamel bonding system, with the choice of their bonding system being influenced by ease of use and reliability. Other reasons included recommendation, good shelf life, no post-operative sensitivity and the bonding system came included in the composite kit.

The ease of use of the currently used bonding system was rated as follows:



| Attribute | Average score | Range | Overall rank |
|--|---------------|-------|--------------|
| One component self-etching adhesive | 2.6 | 1 - 8 | 2 |
| Available in both bottle or single unit doses | 5.4 | 2 - 8 | 6 |
| Light cured 7th generation dual adhesive bonding to dentine & enamel | 2.6 | 1 - 6 | 1 |
| Hema free composition with bonding durability & less sensitivity | 4.1 | 1 - 7 | 5 |
| Single coat, 5 micron thickness, 3 restoration unit dose | 3.3 | 1 - 6 | 4 |
| Dental Advisor 5* rating | 6.4 | 3 - 9 | 9 |
| Ideal for MiCD | 6.1 | 1 - 9 | 8 |
| Competitive price | 5.5 | 1 - 8 | 7 |
| Ease of use | 2.9 | 1 - 7 | 3 |

The evaluators were asked to rate the presentation of the Beautibond:

56% (n=5) of the evaluators preferred the single unit dose presentation.

Comments
 'Box is a bit fiddly for removal of single dose units'
 'Make box well balanced so it doesn't fall over when 63% (n=6) of the evaluators stated they would not be

The number of dentine bonded restorations placed by the evaluators in a typical week varied from less than 10 by one evaluator to more than 20 by five evaluators. 56% (n=5) of evaluators (4 each) stated that they preferred a bottle presentation to a single dose unit, while 63% (n=6) of the evaluators stated they would not be