

## PREP Panel Product Evaluation

# A practice-based evaluation of the handling of Coltène Miris resin composite

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**T**HE 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 the success of a material or technique could be considered to be its performance in everyday use in a particular dentist's practice.

Central to good performance of dental materials are not only their physical properties, but also their ease of use, given that it could be suggested that a restorative which handles easily will be more likely to produce an optimally performing restoration than one which is technique-sensitive. The assessment of the handling of a new

but when practitioners band 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 generic. 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, and has grown to contain 28 dental practitioners located across the UK. It has completed over 40 projects – mainly “handling” evaluations of materials and techniques, but also clinical trials of up to three years assessing the performance of restorative techniques in dental practice.

### Materials and methods

The product under evaluation was Miris, a composite restorative material manufactured by Coltène/Whaledent. An explanatory letter, questionnaire and packs of the Miris and One Coat Bond SE were distributed in April 2006. The practitioners were asked to use the materials in situations where they were indicated clinically, and return the questionnaire after 10 weeks of using the materials.

Twelve members of the PREP panel

were selected at random to conduct the evaluation. Two of them were female. The average time since graduation was 23 years, with a range of 11 to 33 years.

### Results

#### Background information

The number of anterior composite restorations placed by the evaluators in a typical week was as follows:

Restorations	Respondents
<10	4 (33%)
10-15	5 (42%)
16-20	1 (8%)
>20	2 (17%)

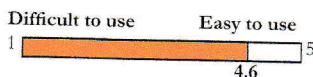
Half of the evaluators stated that

single shade – not encountered layering composite technique”; “not always needed” (two); “not routinely – only incisal edges”; and “rarely do large multi-surface anterior restorations”.

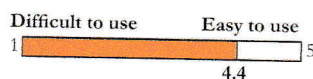
Eleven (92%) of the evaluators placed composite restorations in posterior teeth, with one third placing under five restorations per week, one third placing five to 10, and one third placing over 10 restorations per week.

Prior to this study by the respondents, a wide range of anterior and posterior composite materials were used. Four of the respondents used more than one material.

The principal reasons for the choice of these materials were good aesthetics, ease of use, good results and familiarity. Another reason reported was good results in clinical trials. For posterior composites, additional reasons were good wear resistance and strength. 92% (n=11) of the evaluators used their present material in compule form, while three (25%) of the evaluators used the materials in syringe form (two evaluators using both presentations). When the evaluators were asked to rate the ease of use of their current anterior composite material, the result was as follows:



When the evaluators were asked to rate the ease of use of their current posterior composite material, the result was as follows:



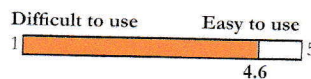
Eleven (92%) of the evaluators expressed a preference for composite materials to be supplied in Vita shades. The remaining evaluator preferred the manufacturer's shades.

When the evaluators were asked to rate the aesthetic quality of anterior restorations placed using their current composite material, the result was as

4.5

83% (n=10) of the evaluators stated that the current composite used for anterior restorations had a sufficient number of shades. The mean number of shades provided was 10, with a range of 4 to 20.

The evaluators currently used a variety of dentine/bonding systems. One operator used more than one system. When the evaluators were asked to rate the ease of use of their current dentine/bonding system, the result was as follows:



### Evaluation of Coltène Miris

Evaluators rated the presentation of the kit as follows:

(a) in terms of the completeness of the system:



(b) overall presentation:



When the evaluators were asked if there were ways in which the presentation could be improved, the following comment was made: “box too big – tower system needed with low base area”.

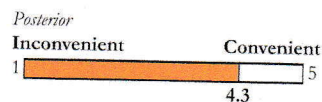
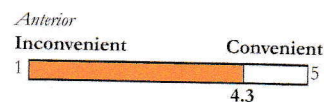
When the evaluators were asked to rate the illustrated technique guide/instructions for Miris, the result was as follows:



The ease of use of the shade guide was rated as follows:

Among the comments observed was: “good, but takes longer”.

The total number of restorations placed during the evaluation was 344, comprised of 222 anterior and 122 in posterior teeth. When the evaluators were asked to give both their own and their dental nurses' assessment of the dispensing and placement of Miris for anterior and posterior restorations, the result was as follows:



Comments made included: “better than Filtek Supreme” and “better than Enamel Plus”.

When the evaluators were asked if the material flowed satisfactorily, the result was as follows:



83% (n=10) of the evaluators stated that the viscosity of the material was satisfactory. 92% (n=11) of the