

HANDLING EVALUATION OF A NANO-COMPOSITE BY UK DENTAL PRACTITIONERS

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INTRODUCTION

In 1993 saw the establishment of a group of UK-wide dental practitioners, the PREP (Product Research and Evaluation by Practitioners) Panel¹, prepared to complete evaluations of new materials and techniques in a practice environment, to give 'feedback' to manufacturers

To date, over 35 evaluations, including handling evaluations and clinical trials^{2,3,4}, have been completed. The PREP panel presently has 25 members with an average time since graduation of 16 years.

MATERIAL

This evaluation assessed the handling properties of the recently introduced resin-based composite material (RBC) containing silica nanofiller particles (Filtek Supreme, 3M ESPE, St. Paul, MN, USA) in clinical use in 12 UK dental practices.

METHOD

The twelve practitioners were selected at random from the PREP panel and supplied with a pack of the new material, full written instructions and a questionnaire. Two of the practitioners were female and the average time since graduation was 20 years, with a range of 10 to 35 years.

The 32question questionnaire was designed to provide background information on the use and choice of RBC materials, the handling and ease of use of Filtek Supreme and the comparison of this material with pre-study RBC materials. The majority of answers were given on a visual analogue scale (VAS).

BACKGROUND INFORMATION

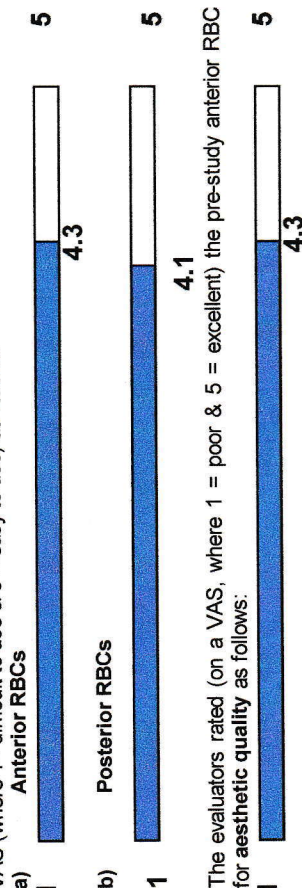
The evaluators stated they placed the following number of RBC restorations in a typical month:

Anterior Restorations	Number of Evaluators	Posterior Restorations	Number of Evaluators
<10	2	<5	4
10-15	5	5-10	3
16-20	3	>10	4
>20	2		

The main reasons for the choice of anterior and posterior use RBC's were good aesthetics, consistent good results and ease of use.

67% (n=8) used a multi-shade layering technique for anterior restorations.

The evaluators rated the pre-study anterior & posterior RBC material for ease of use by a VAS (where 1= difficult to use & 5 = easy to use) as follows:



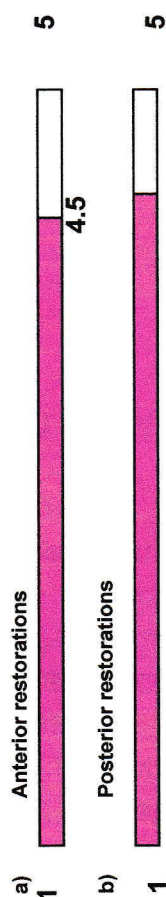
The evaluators rated (on a VAS, where 1 = poor & 5 = excellent) the pre-study anterior RBC for aesthetic quality as follows:



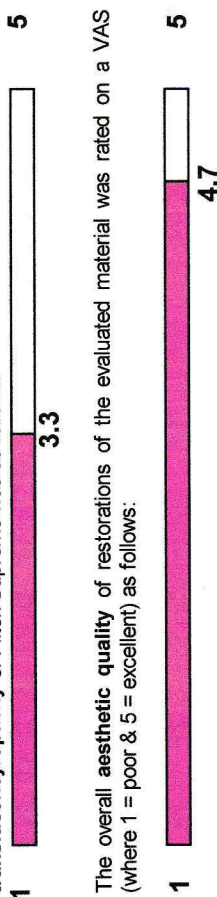
EVALUATION OF FILTEK SUPREME

The total number of Filtek Supreme restorations placed was 778, comprised of 542 anterior and 236 posterior restorations.

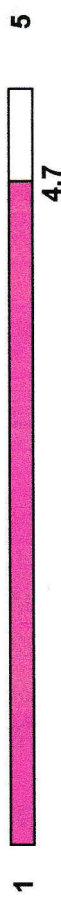
When the evaluators and their DSAs were asked to assess the convenience of Filtek Supreme for dispensing and placement, the result was as follows: (on a VAS where 1 = inconvenient and 5 = convenient):



The evaluators assessment (on a VAS where 1= too opaque and 5 = too translucent) of the translucency/opacity of Filtek Supreme was as follows:



The overall aesthetic quality of restorations of the evaluated material was rated on a VAS (where 1 = poor & 5 = excellent) as follows:



The majority (58%) of evaluators stated that the large range of shades in the kit did enable them to place more aesthetic restorations with 83% using a layering technique. 85% of the evaluators saw the new material for use in both posterior and anterior restorations.

83% (n=10) of the evaluators stated they would purchase Filtek Supreme and the same number would recommend the material to colleagues.

CONCLUSION

This new nano-filled composite restorative material received high ratings when evaluated by 12 UK general dental practitioners. Ease of handling of materials may be considered helpful to achieving good results, demonstrated in this evaluation by the high scores for dispensing and placement convenience and the higher score for aesthetic quality than the pre-trial materials

ACKNOWLEDGEMENT

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