

### Presentation.

Seventy five per cent (n=9) of the evaluators stated that they would not be prepared to pay extra for the convenience of single-unit doses.

The evaluators rated the presentation as follows:



When the evaluators were asked to rate the instructions the result was as follows:



The bottle dispenser was stated to be easy to use by ten (83 per cent) of the evaluators.

Two evaluators commented that the lid of the bottle could be difficult to open. Half (n=6) of the evaluators stated they stored the bottle upside down.

The cleanliness and ease of cleaning the bottle was rated as follows:



A total of 875 restorations were placed using Scotchbond Universal, comprised of 172 class I, 189 class II, 134 class III, 178 class IV, 182 class V, and 20 other restorations of incisal edges.

When the evaluators were asked if they used Scotchbond Universal for any other applications, four evaluators stated that they used the material for bonding indirect restorations and four also used it for the treatment of dentinal hypersensitivity. Other uses included repair of fractured porcelain, bonding of posts, bonded amalgam restorations and preventive sealant restorations.

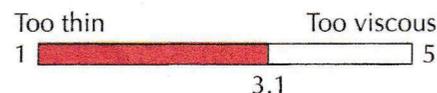
All the evaluators stated that the resin liquid easily wet the tooth surface and that the bond was easily visible on the tooth surface. Four evaluators commented on the slight yellow tint. When the



evaluators were asked to rate their, and their dental nurses', assessment of the dispensing and handling of Scotchbond Universal, the result was as follows:



The viscosity of the bonding liquid was rated by the evaluators as follows:



All the evaluators stated that the Scotchbond Universal liquid remained in place when placed on the tooth surface, and 75 per cent (n=9) considered this an advantage over other adhesives. The absence of the need to wash off a separate etching liquid in Scotchbond Universal was stated by 83 per cent (n=10) of the evaluators to be an advantage over other systems that use phosphoric acid. Two evaluators stated that they still preferred to etch the enamel.

Eight evaluators (67 per cent) stated that the application of Scotchbond Universal liquid was better than

the application of other bonding adhesives they had used, while three evaluators also stated that it was less messy.

Seventy five per cent (n=9) of the evaluators stated that their dental nurses did not experience any difficulties using Scotchbond Universal. The remainder commented that the lid was difficult to open. The one-component aspect of Scotchbond Universal was stated to be an advantage over other systems by all the evaluators.

Fifty eight per cent (n=7) stated that Scotchbond Universal was faster than other bonding systems they had used, the remaining evaluators stated it was the same. A similar comment was made by four evaluators that the ease of application and no etch made it faster.

When they were asked if there were any changes the considered essential to the acceptability of the material, comments were made on the bottle design and the colour of the material. When the evaluators were asked to rate the ease of use of the Scotchbond Universal, the result was as follows:



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### Final comments included:

"Extremely useful to have a material that bonds both to indirect restorations as well as the tooth structure. No need for multiple kits of materials. So far has worked well"

"An advance on previous materials in terms of performance in non-retentive (wear) cavities"

### Discussion

The Scotchbond Universal adhesive system has been subjected to an extensive evaluation in clinical practice, in which 875 restorations were placed by members of the PREP panel.

The presentation of the material and the instructions scored very highly (4.9 and 4.8 on a visual analogue scale where 5 = excellent and 1 = poor). Scotchbond Universal was rated as significantly better by the evaluators for ease of use when compared with the previously used adhesive system, (4.9 v 4.0 on a visual analogue scale where 5 = easy to use and 1 = difficult to use. A near ideal score for viscosity (3.1 on a visual analogue scale where 5 = too viscous and 1 = too thin) was achieved. In terms of previous handling evaluations by the PREP Panel<sup>3</sup>, these are high scores, given that an overall score of 5 has only been achieved on two occasions over 20 years of evaluations.

A comment was made regarding the colour of the material, with one evaluator commenting that it affected the choice of adhesive material for a particular restoration.

All the evaluators agreed that 'universal' nature of the material was an advantage over previous materials and all the evaluators would purchase the material if it was available at an average price.

### Conclusion

The excellent reception of Scotchbond Universal was underlined by the fact that all the evaluators would purchase the material if available at average cost and very high score for 'ease of use'.

### Manufacturer's comments

"3M ESPE highly appreciates the opportunity of having Scotchbond Universal evaluated by the PREP Panel. The very positive feedback obtained from the PREP Panel matches well with comments from other general dental practitioners and underlines Scotchbond Universal's claim of being an easy to use, reliable and versatile adhesive. The yellow colour of the adhesive results from a high content of camphorquinone for a high degree of conversion, and a low solvent content for increased working time and uniform film thickness. The yellow colour allows easy visibility of Scotchbond Universal in the uncured state facilitating the adhesive application and bleaches completely upon thorough curing."

### References

1. Buonocore MG. 'A simple method of increasing the adhesion of acrylic filling materials to enamel surfaces'. *J Dent Res* 1955;**34**(6):849-853.
2. Scotchbond Universal Product Profile, 3M ESPE.
3. Burke FJT, Crisp RJ. 'Twenty years of handling evaluations and practice-based research by the PREP Panel'. *Dental Update* 2013;**40**:339-341.