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Subscription Information

Full UK £99 • Europe £109 • Airmail £135

Surface mail £115 • Retired GDP/Vocational Trainee/PCD £59 • Student £36

10 issues per year

Single copies £15 (Overseas £17.50–£20)

Subscriptions cannot be refunded.

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All subscriptions should be made payable to

George Warman Publications (UK) Ltd.

Publishing Director: Stuart Thompson

Designer: Lisa Dunbar

Production/Assistant Designer: Daniel Annett

Illustrator: Richard Taylor

Chairman: John Siebert

Dental Update is published by: George Warman

Publications (UK) Ltd, Unit 2, Riverview Business Park, Walnut Tree Close, Guildford, Surrey GU1 4UX

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website: <http://www.dental-update.co.uk>

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Printed in the United Kingdom by Williams Press (Berks) Ltd

Repro by Williams Press (Berks) Ltd



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PHYSICIANS AND
SURGEONS OF GLASGOW
DENTISTRY

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FJ Trevor Burke

What's new from IADR?

The International Association for Dental Research holds one major meeting per year, with a number of (smaller) divisional meetings for Europe, Asia, Scandinavia, etc. The process is that researchers submit abstracts and, if these are accepted, the researchers subsequently attend the meeting and present their findings, either in poster format or as an oral presentation. Major meetings generally have more than 3,000 abstracts. Readers will, by now, have understood that attendance at these meetings is a good way of finding out the results of the latest research, worldwide. Of course, a lot of the work presented is cutting edge basic science, but it is relatively simple to seek out the presentations which have a strong clinical message. My main interest is the clinical application of dental materials, so those are the presentations which I attended. Here are some of the salient points which I gleaned.

Readers of *Dental Update* will be aware that self-etch dentine-bonding agents were developed *circa* 10 years ago, with rejoicing from myself and others that we might soon be able to manage the bonding process without using phosphoric acid.¹ Among the first hints that that was not so was in a paper by Peumans and colleagues, who suggested the term *selective enamel etching*, meaning etch the enamel but not the dentine. They used *Clearfil SE* (Kuraray) and obtained good retention in Class V cavities at 5, and subsequently 8, years,² but the margins were better when they had been etched. The word on the street at the research meeting is that it is likely that the technique of selectively etching the enamel probably applies to the majority of bonding agents in the self-etch class, although more clinical trials need to be carried out. While on the subject of dentine bonding, a paper (#271)³ from the University of Birmingham, Alabama, concluded that 15 years' water storage did not result in any degradation of the resin-dentine interface – a reassuring finding! *Optibond FL* (Kerr), long regarded as a gold standard, was the bonding agent in this work.

Bulk fill composites have been a buzz word for *circa* 5 years, since the introduction of *SDR* (Dentsply), and a number of similarly-styled materials have subsequently been introduced. Ernst *et al* (#419)³ tested four of these *in vitro*, with the results indicating varying degrees of shrinkage stress reduction.

The question of partial caries removal is a thorny one, but there seems to be increasing evidence that the technique can be justified, at least in Class I cavities. Franzon *et al* (#380)³ followed 48 children with a total of 120 carious molar teeth for 2 years, with the partial caries removal group having high clinical/radiographic success. They concluded that the technique leads to pulp preservation, but results were less good for Class II cavities, though not statistically significant.

A simple method for crown production might be every clinician's dream! Sabrosa *et al* (#804)³ followed five patients, each of whom required two crowns, for 18 months, with the crowns being constructed using a direct technique with two provisional bis-acryl composite materials luted with a permanent resin cement. The results indicated good performance with regard to wear, maintenance of surface lustre and gingival health with *Protemp 4* (3M ESPE). Although this is a small study, it might be a pointer for future development of this technique as a more permanent methodology.

Treatment of a pulp exposure is never simple! Hilton *et al*, from the US-based PRECEDENT practice-based research group (#1824)³ followed 358 patients with direct pulp caps treated with Ca(OH)₂ or MTA for 2 years. The failure rate of Ca(OH)₂ was 39% and MTA, 21%. Co-factors such as bleeding, exposure size and presence of rubber dam did not affect outcome.

Great work was carried out by Opdam *et al* who performed a meta-analysis on longevity of posterior composites (#2931).³ Using data on 2816 Class II restorations, they found a failure rate of 2.35% over a 10-year period.

Finally, readers will have noted two excellent papers in this issue, on the technique of coronectomy. This is not a coincidence! I felt that the papers were complementary and that this has become a technique which deserves detailed coverage. While not all readers may actually remove wisdom teeth, they should be able to discuss coronectomy with patients and, ultimately, refer patients for whom the technique is indicated to a surgeon who is versed in the technique.

References

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- IADR abstracts. *J Dent Res* 2013; **92** (Spec Iss A).

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