INTRODUCTION

- The effective treatment of dental emergencies has been considered to be a practice builder\(^1\) and dentinal sensitivity was the fifth most common presenting emergency seen by a group of practitioners surveyed on the provision of emergency dental care\(^2\). It has also been reported that between 5 - 57% of the adult population suffer from dentinal hypersensitivity\(^3\).
- This multi-centre open clinical evaluation reports the effectiveness of Systemp.deensitizer (Ivoclar-Vivadent, Schaan, Liechtenstein), when used both with and without an acid-etch step, in the treatment of dentinal hypersensitivity in UK dental practices.

PRODUCT

- Systemp.deensitizer (Ivoclar Vivadent) contains polyethylene glycol dimethacrylate and glutaraldehyde in an aqueous solution.

INVESTIGATION TEAM

- The ten general dental practitioners (GDPs) participating in this study were members of two practice based research groups: a) BRIDGE (Birmingham Research In Dental General Practice) and b) the PREP (Product Research and Evaluation in Practice) panel, a group experienced in practice based evaluations and clinical trials\(^4\)\(^5\). Each GDP’s used Systemp.deensitizer in the treatment of 10 patients, each, who presented with pain diagnosed as dentinal sensitivity.

EVALUATION OF PAIN

Patients were asked to complete a proforma using a 10cm visual analogue scale (where 0cm = “no pain” and 10cm = “extreme pain”). Only patients who returned the 24 h and 1 week proforma were sent 1 month evaluation forms and so on.
Fig. 2  Patient’s First Proforma

STUDY DESIGN

<table>
<thead>
<tr>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-treatment evaluation of pain</td>
<td></td>
</tr>
<tr>
<td>Isolate the tooth and gently blot dry with cotton wool pellets</td>
<td>Etch treatment area for 15s with 35% phosphoric acid</td>
</tr>
<tr>
<td>Rub in Systemp.desensitizer for 20s, then gently air dry</td>
<td></td>
</tr>
<tr>
<td>24 h post-treatment evaluation of pain</td>
<td>1 week post-treatment evaluation of pain</td>
</tr>
<tr>
<td>1 month post-treatment evaluation of pain</td>
<td>3 months post-treatment evaluation of pain</td>
</tr>
</tbody>
</table>

RESULTS

Fig. 3: Number of Patients returning Self-evaluation Proforma.
A two-sample t-test of the means for E and NE groups confirmed that before treatment commenced, there was no significant difference in the mean pain scores for the two groups.

Overall, about 80% of patients reported a sharp reduction in pain immediately after treatment (80% for NE, 78% for E). Patients in the E group however indicated a smaller reduction in pain at this time than in the NE group.

At one week after treatment about 90% of patients (91% for NE and 87% E) reported pain reduction.

After one month 91% of patients (88% for NE and 95% for E) reported reduction in pain. Again, the reduction in pain for the NE group remained consistent but the E group showed further reduction in pain.

STATISTICAL ANALYSIS

Boxplots of Pain Scores for ALL Patients Across 5 Time Points

Repeated Measures boxplot for NOT ETCHED Group

Repeated Measures boxplot for ETCHED Group
SUMMARY

- Overall, there was a significant reduction in pain at each of the time points after treatment but the average pattern of pain reduction across the two groups was different.
- The non-etched group saw an immediate reduction whilst etched group took longer to see a reduction in pain but there were no statistically significant differences between the reductions in pain scores between the two groups at any of the time points after treatment.

It is concluded that Systemp.desensitizer was effective in reducing pain from dentinal hypersensitivity in the patients treated, and this was unaffected by whether the tooth was acid etched prior to resin application.

ACKNOWLEDGEMENT
The support of Ivoclar-Vivadent is acknowledged. Thanks are also due to the participating practitioners and their patients for their co-operation.

REFERENCES