**SMALL DIAMETER “MINI” IMPLANTS—USER STATUS REPORT**

**What is a small diameter, or mini, implant?** Root-form dental implants with a diameter 3mm or over have been cleared for use by the FDA since 1976. For years, implants smaller than 3mm in diameter, known as “mini” or small diameter implants, were used only for “transitional” support of prostheses, or in orthodontics as anchors used to assist tooth movement. Clinicians using minis as transitional implants found that when they were not removed within a few months of placement they became osseointegrated & were difficult or nearly impossible to remove.

**Long-term use?** Because of the success of minis as transitional implants & the observed osseointegration, many clinicians began to use them as long-term implants. In 1997 the Imtec mini implant received FDA clearance for “intra-bony & intra-radicular...” & in 2003 for “long-term intra-bony applications” & in 2003 for “long-term intra-bony applications”. The Dentatus company received similar clearance. Last month the Intra-Lock mini implant was cleared. Numerous other companies are in the process of obtaining clearance for implants under 3mm.

CRA conducted a survey on mini implants (May to August 2007). Following report gives CRA commentary on survey results, & conclusions.

**Full survey results are available online:** www.cranews.org.

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**1. CRA COMMENTARY ON SURVEY RESULTS**

**A. Companies with <3mm diameter implants that were reported** (most to least used, left to right):

- **Imtec**
- **Sendax MDI**
- **Dentatus**
- **Atlas Dome Keeper Implants**
- **Intra-Lock MDL Dental Implants**
- **Sterngold ERA Implant**
- **www.imtec.com**
- **www.dentatus.com**
- **www.intra-lock.com**
- **www.sterngold.com**
- **For $53/1.8mm implant, $90/1.8, 2.2, or 2.44mm implant (sold only in packs of 2)**

**B. Respondent characteristics (ranges in parentheses)**

1. **Number of respondents:** 200
2. **Years out of dental school:** mean=27 (5-66)
3. **Respondent locations:** 34 US states, Canada & elsewhere.
4. **Dental specialties:** General practitioners=95%, prosthodontists=4%, periodontists=1%.
5. **Years in implant dentistry:** mean=13 (1-40)
6. **Implant dentistry involvement:** surgery & prosthodontics=74%, prosthodontics only=24%, surgery only=2%.
7. **In-house education:** Depending on the brand, 13–100% had attended a course on mini implants.

**C. CRA summary of survey results**

**1. Scope of the survey**

This survey represents a current “real world” look at use of mini root-form implants as used by experienced practitioners for restorative purposes. 95% of respondents were general dentists with a mean of 27 years of practice. About half of the respondents received continuing education about minis before using them.

"CLINICAL SUCCESS IS THE FINAL TEST"
2. **CRA CONCLUSIONS**

Currently, long-term use of small diameter implants is moving from a relatively experimental mode to mainstream practice. Small diameter implants are indicated when patients have minimal bone, denial of grafting, poor health, minimal financial resources, & the desire to have minimally invasive surgery accomplished. Whether or not they will replace conventional diameter implant placement in situations where either could be used is yet to be determined, but is likely to happen. Mini or small diameter implants are minimally invasive, have moderate cost, are easily accomplished, are easily removed if they fail, & have excellent patient acceptance. It is anticipated that many additional companies will seek FDA clearance of small diameter implants, & that their use will expand & provide otherwise unavailable service for patients.

### GLUTARALDEHYDE / HEMA DESSENSITIZER OPTIONS

Since its first widespread use in the U.S. in the mid ‘90s, Gluma Desensitizer (Heraeus Kulzer) has gained broad acceptance in the dental profession. Its formulation of 5% glutaraldehyde & 35% HEMA (2-hydroxyethyl methacrylate) has reduced hypersensitivity in a variety of situations. Following expiration of its patent protection, several products with similar chemical composition have emerged to challenge Gluma’s market dominance.

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Company</th>
<th>Composition</th>
<th>Cost &amp; Dispensing</th>
<th>Cost/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha-Ease</td>
<td>Dental Technology</td>
<td>35% HEMA, 4% Glutaraldehyde, 0.4% NaF</td>
<td>$42.00/7ml bottle</td>
<td>$6.00/ml</td>
</tr>
<tr>
<td>Desensitizer G</td>
<td>Health Dent'l</td>
<td>35% HEMA, 5% Glutaraldehyde, 0.5% NaF</td>
<td>$39.95/10ml bottle</td>
<td>$4.00/ml</td>
</tr>
<tr>
<td>G5</td>
<td>Clinician's Choice</td>
<td>35% HEMA, 5% Glutaraldehyde</td>
<td>$59.95/50 single dose applicators (0.35ml)</td>
<td>$3.43/ml</td>
</tr>
<tr>
<td>Gluma (CONTROL)</td>
<td>Heraeus Kulzer</td>
<td>35% HEMA, 5% Glutaraldehyde</td>
<td>$90.92/5ml bottle</td>
<td>$18.18/ml</td>
</tr>
<tr>
<td>Glu/ Sense</td>
<td>Centrix</td>
<td>35% HEMA, 5% Glutaraldehyde</td>
<td>$113.31/40 single dose pack (0.075ml)</td>
<td>$2.83/ml</td>
</tr>
<tr>
<td>Microprime G</td>
<td>Danville Materials</td>
<td>35% HEMA, 5% Glutaraldehyde</td>
<td>$93.30/5 syringes (1ml) &amp; 80 SoftNeedle tips</td>
<td>$15.55/ml</td>
</tr>
</tbody>
</table>

1. **INDICATIONS FOR USE**

Glutaraldehyde/HEMA based products can be used for treatment of dentinal hypersensitivity & prevention of post-operative sensitivity. Indications include:

1. Under resin-based composite & amalgam restorations.
2. After crown preparations.
3. Prior to final seating & cementing of indirect restorations.
4. Sensitive cervical areas.
5. After periodontal procedures including scaling & root planning.