1. **Consepsis/Consepsis Scrub**  
   Ultradent

2. **Preppies**  
   Whip Mix

3a. **Sure Clean**  
   Denticator/Young

3b. **UltraCid F**  
   Ultradent

4. **Cavity Cleanser**  
   Bisco

5. **Tubulicid Red**  
   Dental Therapeutics/Global Dental
Cleaning teeth prior to etching or prior to conventional cementation of an indirect restoration to remove remnants of provisional cement used to be a simple matter of using a pumice slurry in a prophy cup. However, current thought suggests that the cleaning step should be combined with disinfecting the cavity, just as you would for any other type of wound to the body. Disinfecting the cavity supposedly reduces sensitivity by eliminating or minimizing bacterial growth under restorations. Bacteria reaching the pulp have been implicated in causing sensitivity. Even though the necessity of using a disinfectant to clean a cavity prior to its restoration is still open to question, it seems prudent to use a disinfectant until proven otherwise.

**Composition**

When the concept of disinfecting teeth was originally proposed by Brannstrom, the recommended agent was benzalkonium chloride (BAC) mixed with EDTA. It was meant to disinfect and partially remove the smear layer. Most current products contain either BAC or 2% chlorhexidine gluconate as the primary active ingredient.

**Cleaning**

For the cleaning function, you basically scrub the preparation until it is visibly clean. Some products come in dispensing syringes to make application easy, while the others require dispensing onto a cotton pellet, sponge, etc. You can also choose to use a prophy cup if the preparation is readily accessible, such as a veneer, or you can use an ICB Brush when access is limited. Since most of these cleaners are formulated to act without any abrasive agent, you may choose to mix a cleaner with an abrasive such as pumice if the tooth is laden with debris of any sort. We used our **CHOICES** as cleaners prior to etching with phosphoric acid and a self-etching adhesive to see if there was any negative effect compared to rinsing the tooth with water or scrubbing with a plain pumice slurry. The results are listed in the commentary for each product.

**Remoistening/Rewetting**

Drying a preparation after etching to ensure an adequate enamel etch and then remoistening/rewetting the cavity prior to applying an adhesive that bonds to moist/wet tooth structure used to be a reasonably popular procedure. However, our tests show that not drying in the first place is the more effective procedure. On the other hand, there presumably is a residual antibacterial effect that could help reduce bacterial ingress as a result of microleakage if you use one of these products as a remoistener/rewetter after etching.

Nevertheless, our tests have found lower bond strengths when a disinfectant is used as a remoistener/rewetter. Whether the extra antimicrobial effect when using a disinfectant makes up for the decrease in bond strength is unknown.

<table>
<thead>
<tr>
<th>Product</th>
<th>Cost/ml</th>
<th>Composition</th>
<th>pH</th>
<th>Color</th>
<th>Dispenser</th>
<th>Effect on Bond Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consepsis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Consepsis Scrub</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ultradent</td>
<td>$4.16</td>
<td>2% Chlorhexidine</td>
<td>5.9</td>
<td>Aqua</td>
<td>Syringe</td>
<td>No Effect</td>
</tr>
<tr>
<td></td>
<td>$3.33</td>
<td>2% Chlorhexidine in Abrasive Paste</td>
<td>6.1</td>
<td>Aqua</td>
<td>Syringe</td>
<td>Slight Positive Effect</td>
</tr>
<tr>
<td><strong>Preppies Whip Mix</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td></td>
<td>Pumice</td>
<td>8.1</td>
<td>Gray</td>
<td>Unit Dose Cup</td>
<td>No Effect</td>
</tr>
<tr>
<td><strong>SureClean Denticator/Young Dental</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td></td>
<td>Pumice</td>
<td>7.4</td>
<td>Gray</td>
<td>Unit Dose Cup</td>
<td>No Effect</td>
</tr>
<tr>
<td><strong>UltraCid F Ultradent</strong></td>
<td></td>
<td>EDTA, Benzalkonium Chloride, 1% Sodium Fluoride</td>
<td>7.2</td>
<td>Clear</td>
<td>Syringe</td>
<td>No Effect</td>
</tr>
<tr>
<td><strong>Cavity Cleanser Bisco</strong></td>
<td>$0.15</td>
<td>2% Chlorhexidine Digluconate</td>
<td>5.4</td>
<td>Clear</td>
<td>Squeeze Bottle</td>
<td>Slight Positive Effect</td>
</tr>
<tr>
<td><strong>Tubulicid Red Dental Therapeutics/Global Dental</strong></td>
<td>$0.27</td>
<td>2% EDTA, Benzalkonium Chloride, 1% Sodium Fluoride</td>
<td>7.2</td>
<td>Clear</td>
<td>Squeeze Bottle</td>
<td>Slight Positive Effect</td>
</tr>
</tbody>
</table>
## Composition

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consepsis</strong></td>
<td>2% chlorhexidine solution, aqua in color.</td>
</tr>
<tr>
<td><strong>Consepsis Scrub</strong></td>
<td>Pumice-like material mixed with Consepsis.</td>
</tr>
</tbody>
</table>

## pH

<table>
<thead>
<tr>
<th>Product</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consepsis</strong></td>
<td>5.9</td>
</tr>
<tr>
<td><strong>Consepsis Scrub</strong></td>
<td>6.1</td>
</tr>
</tbody>
</table>

## Effect on Bond Strength

<table>
<thead>
<tr>
<th>Product</th>
<th>OptiBond Solo plus</th>
<th>Prime &amp; Bond NT</th>
<th>Clearfil SE Bond</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consepsis</strong></td>
<td>No effect</td>
<td>Slight positive effect</td>
<td>No effect</td>
</tr>
<tr>
<td><strong>Consepsis Scrub</strong></td>
<td>Slight positive effect</td>
<td>No effect</td>
<td>No effect</td>
</tr>
</tbody>
</table>

## Packaging

Both materials come in clear plastic trays with clear plastic lids. The printing on the syringes is moisture-resistant and the expiration date is printed on the label of the package, as well as being etched (chiseled) into the syringe. Also available in IndiSpense packaging for loading your own disposable syringes.

## Directions

Each version has its own plain paper foldout, with Scrub’s in 11 languages. Short, simple, easy-to-understand. Each has several black and white photos demonstrating the proper application and use.
**Preppies**
Whip Mix  
www.whipmix.com

Cost: $29.25/100 ($0.29 ea)  
MSDS: Not included  
Shelf life: 2 years

**RAVES & RANTS**
- Convenience plus
- Much more sanitary than mixing your own
- Expensive for plain pumice
- Too much paste if you are only doing one tooth

**Composition**
Premixed pumice in unit dose cups similar to prophy paste. Contains no oils, flavoring, or fluoride.

**pH**
8.1

**Effect on Bond Strength**

<table>
<thead>
<tr>
<th>Product</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>OptiBond Solo plus</td>
<td>No effect</td>
</tr>
<tr>
<td>Prime &amp; Bond NT</td>
<td>No effect</td>
</tr>
<tr>
<td>Clearfil SE Bond</td>
<td>No effect</td>
</tr>
</tbody>
</table>

**Use**
Cleaning preparations prior to adhesive procedures or for virtually any other cleaning procedure, including prior to bleaching.

**Packaging**
Transparent rectangular jar with white plastic screw-top. Airtight resealable jar increases shelf life to two years by preventing the unit dose cups from drying out. Labels on front and back of box list basic product information as well as expiration date.

**Directions**
None. Uses are listed as bullet points on the back of the jar. Patients with chemical sensitivities who may be allergic to additives could be added to list of uses.

---

**Sure Clean**
Dentator/Young  

Cost: $33.95/200  
($0.17 ea)  
Shelf life: 2 years  
MSDS: Not included

**Composition**
Medium-grit pumice (<30µ) mixed with two types of ultra fine alumina in unit dose cups similar to prophy paste. Contains no oils, flavoring, gluten, or fluoride.

**pH**
7.4

**RAVES & RANTS**
- Less expensive than Preppies
- No gluten = hypoallergenic
- Lowers bond strength of two adhesives
- Can be too dry
Use
Cleaning preparations prior to adhesive procedures or for virtually any other cleaning procedure, including prior to bleaching.

Packaging
Generic white corrugated cardboard box with a label identifying the product and including the manufacturing and expiration dates attached to the top of the box. Not conducive to preserving material due to boxes inability to be sealed as an air tight container.

Directions
None.

Cost: $19.99/30ml ($0.67/ml)  Shelf life: 2 years  MSDS: Included

Composition
EDTA, benzalkonium chloride, 1% sodium fluoride.

pH
7.2

Effect on Bond Strength

<table>
<thead>
<tr>
<th>Product</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>OptiBond Solo Plus</td>
<td>No effect</td>
</tr>
<tr>
<td>Prime &amp; Bond NT</td>
<td>No effect</td>
</tr>
<tr>
<td>Clearfil SE Bond</td>
<td>No effect</td>
</tr>
</tbody>
</table>

RAVES & RANTS

- Can dispense only what’s needed for procedure
- Disposable — no cleanup
- If you run out, it’s a hassle to dispense more
- Extra plastic in landfills

Packaging
Cardboard box. The IndiSpense syringe is a short, fat transparent syringe with a half moon finger rest that should fit your hand easily. The label on the syringe is moisture-resistant and has the expiration date. You use the bulk syringe to preload empty smaller prelabeled syringes (1.2cc) by attaching and locking the smaller syringe to the Luer-lock end of the IndiSpense. As you push on the IndiSpense plunger, pull back on the small syringe’s plunger. You load as much UltraCid F into the smaller syringe as you’ll need for the procedure and no more. Disconnect the smaller syringe from the IndiSpense, place a syringe tip (Blue Mini Dento-Infusor or Black Mini tip), and you’re ready to go. When you are finished with the procedure, you merely throw out the used UltraCid syringe.

Not only is this system less expensive than preloaded syringes, it eliminates cross-contamination and you no longer need to use syringe barriers.

Directions
Short, simple, easy-to-understand coated paper foldout with photos showing how to use the IndiSpense system.
Cavity Cleaners/Disinfectants

4 Cavity Cleanser
Bisco

<table>
<thead>
<tr>
<th>Cost: $20.00 ($0.15/ml)</th>
<th>Cost: $9.00 ($1.29/ml)</th>
<th>Shelf life: 2 years</th>
<th>MSDS: Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes: 1 btl (135ml)</td>
<td>Includes: 1 btl (7ml)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**RAVES & RANTS**

- Large bottle is very inexpensive
- Simple packaging
- No convenient applicator
- Must buy large bottle to save money

**Composition**
Clear and odorless 2% chlorhexidine digluconate.

**pH**
5.4

**Effect on Bond Strength**
- OptiBond Solo plus: Slight positive effect
- Prime & Bond NT: No effect
- Clearfil SE Bond: No effect

**Packaging**
Rectangular clear plastic box with translucent lid containing a plastic squeeze bottle with flip-up dispensing spout. Also included is a small (3ml) sample squeeze bottle. Alternately, there is a 7ml bottle, but the per unit cost is significantly higher compared to the bigger bottle. Expiration date is on the moisture-resistant labels of both types of bottles.

**Directions**
Plain paper foldout with 135ml bottle — none with the 7ml bottle. Straightforward, general information and instructions.

**Cost:** $20.00 ($0.15/ml)
**Includes:** 1 btl (135ml)

---

5 Tubulicid Red
Dental Therapeutics/Global Dental

<table>
<thead>
<tr>
<th>Cost: $26.50/100ml ($0.27/ml)</th>
<th>Shelf life: 5 years</th>
<th>MSDS: Not included</th>
</tr>
</thead>
</table>

**RAVES & RANTS**

- Environmentally friendly bottle
- Track record
- Not as easy to apply compared to syringe products
- Outdated instructions

**Composition**
2% EDTA, benzalkonium chloride, and 1% sodium fluoride. Also available without fluoride.

**pH**
7.2

**Effect on Bond Strength**
- OptiBond Solo plus: Slight positive effect
- Prime & Bond NT: No effect
- Clearfil SE Bond: Slight positive effect

**Packaging**
Plastic squeeze bottle with integral dropper, which is essentially a small hole in the plastic disc inserted in the large mouth of the bottle. This does allow you to dispense drops, but it also drips onto the plastic disc. The moisture-resistant label on the bottle contains the instructions, ingredients, and expiration date. This bottle is 100% recyclable.

**Directions**
On bottle label. Simple and straightforward, but somewhat out-of-date, stating you should “insulate with Tubulitec Primer and Liner under all fillings.” These instructions were obviously written before dentin bonding and really don’t apply today.
Consepsis and Consepsis Scrub are still the favorites in this category due to their excellent dispensing system and track record. What could be easier than pushing on the plunger to wet the Dento-Infusor tip and scrubbing the preparation at the same time with Consepsis or dispensing Consepsis Scrub directly on the preparation followed by mechanical scrubbing with a prophy cup or ICB brush? You also have the option of the totally disposable IndiSpense packaging. Both versions had no negative effects on bond strengths. However, these are the most expensive products in this group.

If you choose not to use a disinfectant as a cavity cleaner, then your cleaning choices basically come down to pumice or prophy paste. However, prophy paste has oils, fluoride, and flavoring that may interfere with adhesion. Therefore, most clinicians will use pumice, which is typically mixed as needed. This can be messy, scooping out a small amount of pumice and mixing it with water in a dappen dish. Preppies, in their prophy paste-like unit dose packets, offer a convenient alternative, which assistants definitely appreciate. And the jar that holds the unit dose packets largely overcomes the problem of the pumice drying out — it is in a perfect consistency.

It also appears to be a more effective cleaner when it comes to self-etching adhesives. Based on our own study, there was significantly less microleakage in Class V cavities when Preppies were used to clean the cavities prior to applying the adhesive. More leakage was observed when the cavities were cleaned with Consepsis and plain water.

However, if a unit dose packet is removed from the jar, it will still have the tendency to dry out. If this occurs, merely add a small amount of water to remoisten it. If you want to use pumice and desire the ultimate in convenience as well as being much more sanitary, this is it.

Sure Clean is also a unit dose, premixed pumice that is less expensive than the competition, but due to its packaging not being air tight, it is slightly dry in the cup. It is easy to use, but one evaluator thought it could be easier to rinse off, while another felt it rinsed off very easily. While it did not affect the bond strength of one test adhesive, it did cause a slight decrease for the other two adhesives.

Ultracid F offers a time-tested combination of cleaners and disinfectants in the totally disposable, unit-dose convenience of the IndiSpense system. Some evaluators, however, thought it was just “too much stuff” and worried about more plastic in landfills. It has no significant effect on bond strength.

Even though it is not quite as convenient to use as Consepsis, with its syringe delivery system, Cavity Cleanser can be substantially less expensive (lowest price in this category) when you buy the large bottle. It has either no effect or even a slightly positive effect on bond strength.

Tubulicid Red has the longest track record and its bottle is the most environmentally-friendly, being totally recyclable. It had no effect or even a slightly positive effect on bond strength. For a more conventional bottle delivery, it would be a good choice.

OTHER PRODUCTS IN THIS CATEGORY

<table>
<thead>
<tr>
<th>Chlorhexidine Soap</th>
<th>Chlorhexi-Prep</th>
<th>Pumice</th>
<th>Prophy Prep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic</td>
<td>Premier</td>
<td>Generic</td>
<td>Lorvic</td>
</tr>
</tbody>
</table>
Ivo Krejci, D.M.D.  
Topic: "State of the Art and Future Developments In Operative Dentistry"

James Dunn, D.D.S.  
Topic: "Conservative Esthetics Using New Composite Resins and Digital Imaging"

David Baird, D.D.S.  
Topic: "High-Strength Ceramics—Are They the Real Deal?"

Edward Lynch, M.A., B.D.Sc., Ph.D.  
Topic: "Ozone—Can Dentistry Really Be This Easy?"

Michael B. Miller, D.D.S.  
Topic: "Annual REALITY Review of the Latest Products and Techniques"

For more information or to enroll, call 800.544.4999 or 281.558.9101 or visit our Web site at www.realityesthetics.com