

# THE DENTAL ADVISOR™

"Improving Patient Care Through Research & Education"



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**THE DENTAL ADVISOR** evaluates and rates dental products and equipment by objective clinical and laboratory protocols. The publication consists of clinical evaluations, comprehensive long-term evaluations, product comparisons and specialty reports. To subscribe, please call 734-665-2020.

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## Microdentistry

### Q What is microdentistry?

**A** Microdentistry refers to restorative procedures that are minimally invasive. Only the tooth structure necessary to obtain access to, and removal of, a carious lesion is removed. Very small cavity preparations are made with a rounded internal form that may be restored with bonded restorations. This preparation should leave the tooth stronger and the restoration subject to less functional stress than classic G.V. Black cavity preparations. These techniques utilize composites and fluoride-containing materials (glass ionomers, resin-modified glass ionomers) to produce restorations that are nearly invisible and very esthetic. Practitioners are urged to familiarize themselves with the considerable professional literature on diagnosis, treatment planning, cavity preparation and appropriate restorative materials pertinent to these techniques.

#### Types of Carious Lesions

- Small
- Located in pits and fissures
- Do not undermine occlusal surfaces
- Do not result from intrinsic defects

#### Requirements

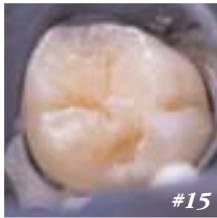
- Small head or specifically designed burs
- Excellent lighting
- Magnification

#### Flowable Composites

- > **3M ESPE Filtek Flow**/3M ESPE
- > **4 Seasons Flow**/Ivoclar Vivadent
- > **Admira Flow**/VOCO
- > **Esthet•X Flow**/DENTSPLY/Caulk
- > **Flow-It ALC**/Pentron Clinical Technologies
- > **FLOWline**/Heraeus Kulzer
- > **GC UniFil Flow**/GC America
- > **GrandiO Flow**/VOCO
- > **LuxaFlow**/Zenith Dental/DMG
- > **Palfique Estelite LV/J. Morita USA**/Tokuyama Dental Corp.
- > **PermaFlo, PermaFlo DC**/Ultradent

#### Clinical Tips and Notes

- Good vision is necessary to distinguish the narrow demarcation between sound and carious tooth structure.
- Caries detection dyes (**Seek**/Ultradent; **Sable Seek**/Ultradent) may be helpful; however, these dyes also stain caries-affected dentin. Glass ionomer restorative material may be used in the case of caries-affected dentin.
- Microdentistry may reduce patient discomfort and allow operative intervention without the need for anesthetic.
- Use syringes of composite with very small needles to adapt composite on pulpal walls and restore the defect from that surface to the exterior contours. This technique may also reduce the inclusion of air bubbles in the filling mass.



Minimally invasive preparations

- Voids may accompany rapid injection of low-viscosity materials into small cavities. Voids compromise properties of the restoration and produce surface imperfections that appear with wear.

Microdentistry is not a replacement for appropriate preventive measures or correct diagnoses that include more traditional operative dentistry procedures. The strictures of classical cavity designs have long proven their value and validity in the long-term restoration of compromised teeth. However, many incipient lesions in enamel, or shallow dentin, will benefit from sealing, fluoride therapy, diet adjustments and proper oral hygiene. When correctly applied, microdentistry is a benefit to both patient and dentist because of its conservative approach in the use of modern materials. ■

**THE DENTAL ADVISOR Recommends:**

- GC Fuji TRIAGE (92%),**
- 3M ESPE Ketac Molar Quick (91%),**
- 3M ESPE Ketac-Silver Aplicap (91%),**
- Fuji II LC (90%)**



**GC Fuji TRIAGE**  
(GC America)

Product	Company	Type	Self-Cure	Light Cure	Capsule/ Unit Dose	Powder/ Liquid	Shades	Rating
<b>3M ESPE Ketac Molar Quick</b>	<b>3M ESPE</b>	Cement-Restorative	Yes	No	Yes	No	4	<b>91%</b>
<b>3M ESPE Ketac-Silver Aplicap</b>	<b>3M ESPE</b>	Cement-Restorative	Yes	No	Yes	No	na	<b>91%</b>
<b>3M ESPE Photac Fil Aplicap</b>	<b>3M ESPE</b>	Cement-Restorative	No	Yes	Yes	No	8	<b>88%</b>
<b>Argion AC</b>	<b>VOCO</b>	Cement-Restorative	Yes	No	Yes	Yes	1	<b>ce</b>
<b>Argion Molar AC</b>	<b>VOCO</b>	Cement-Restorative	Yes	No	Yes	Yes	1	<b>81%</b>
<b>Fuji II LC</b>	<b>GC America</b>	Cement-Restorative	No	Yes	Yes	Yes	10	<b>90%</b>
<b>Fuji IX GP</b>	<b>GC America</b>	Cement-Restorative	Yes	No	Yes	Yes	5*	<b>85%</b>
<b>Fuji IX GP Fast</b>	<b>GC America</b>	Cement-Restorative	Yes	No	Yes	No	5	<b>na</b>
<b>GC Fuji TRIAGE</b>	<b>GC America</b>	Sealant	Yes	Yes	Yes	No	2**	<b>92%</b>

\*Capsule/Unit Dose has 5 shades and Powder/Liquid has 1  
\*\* White is self-cure and pink is self- or light-cure (command set)  
na = not available, ce = currently evaluating

**EDITORS' NOTES:** Only products evaluated by THE DENTAL ADVISOR are eligible for listing as a recommended product. Table information provided by manufacturer. Costs are listed for comparison only and are not used to calculate the ratings.

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