

# FOCUS mda



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## Leadership changing at Association

*Vicki Wilbers to become new MDA Executive Director in November*

At the April 2006 MDA Board of trustees meeting, it was decided that Vicki Wilbers, current Assistant Executive Director, would become MDA Executive Director at the conclusion of the House of Delegates November 4, 2006. Dr. Jake Lippert, current Executive Director will serve as "Executive Director Emeritus" through December 2007.

Dr. Lippert announced his intention to retire at the expiration of his November 2007 contract. An "ED Succession Committee," consisting of current and past board members (Bob Fox, Guy Deyton, Kevin Wallace, Mark Zust, Dan Haney, and Dave Johnson) was appointed with the charge to "begin the process of finding a successor" to Dr. Lippert, who has successfully led the MDA for over nine years.

"It has been a wonderful opportunity to work with so many dentists, allied health members, legislators and state agencies to improve the quality of life for the citizens of Missouri. I am proud of what we have accomplished together," said Dr. Lippert.

Vicki brings over 14 years of experience with the MDA, having served in various capacities and in her current position for the past eight years. Her knowledge of the MDA, its members, the change in Governance structure, staff management and all the other programs make her an excellent candidate to lead the MDA into the future.

"I'm humbled and honored to continue to serve this Association in the future as its

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## New charitable care form will help MDA track goodwill

by Sam Miller, DDS  
Trustee, Southwest Dental Society

Dental offices throughout the state of Missouri continually perform charitable treatment daily for a myriad of reasons. These kind acts go unpublished in the local newspaper, or escape the bright lights and cameras of our local television stations. These giving gestures go totally unnoticed, even though the dentist isn't really looking for the publicity.

Missouri dentists participate in local charity clinics, Donated Dental Services, and Give Kids a Smile programs regularly. All these charitable programs extend oral health care to a some of our neediest citizens. However, nearly all dentists routinely deliver in-office

charitable care, for the uninsured and underinsured. What no one knows, unfortunately, is how much donated care we are delivering. Your help is needed to enable the MDA to develop a database for how much donated care you are delivering.

LET US SHOW WE'RE A  
*health-serving,  
not self-serving profession*

Dentists have a proud reputation as one of the most respected and ethical of all professions. However, health care professionals are the subject of ever increasing scrutiny because of escalating costs and rising out-of-pocket expenses for the insured and

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## Pearls of Wisdom

PROSTHODONTICS

### Treating aggressive caries

by Dean Elledge, DDS, MS & Lindsay English, BS • UMKC School of Dentistry

Today, more than ever, patients choose esthetically pleasing composite restorations over traditional amalgam restorations. With the increasing use of esthetic fillings, dentists are faced with an increase in post-operative sensitivity, recurrent decay, and unexpected root canal treatments. According to Dr. Gordon Christensen, the best way to decrease the problems associated with esthetic restorations is to avoid the use of total-etch primers<sup>1</sup>. In lieu of total-etch systems, Christensen suggests the use of desensitizing liquids, resin-modified glass ionomer liners, and self-etching primers. When using the three previous materials, post-operative sensitivity decreases due to the physical seal created by the desensitizing liquids, the resin liner, and the primer. The problem is they lack sufficient germicidal activity to destroy the biofilm that is associated with caries.

The option for overcoming these problems is the use of a germicidal base, copper zinc phosphate cement. Only copper zinc phosphate cement has the potency to destroy the oral biofilm<sup>2</sup>.

While other solutions exist, the use of copper zinc phosphate cement shows promising results. In a study performed by Dr. Terry Donovan, restorations cemented using zinc phosphate cement showed a 95.4% survival rate, with 45% of the restorations lasting up to 52 years<sup>3</sup>. An important factor in the success of zinc phosphate cement is its infinitesimal solubility of minerals.

Copper-based cements are not a new concept. The use of copper cement dates back to the 1870s when Dr. John Henry Holliday (aka Doc Holliday) used red copper cement to place a gold swaged crown over the carious molar of a six-year old girl. Reportedly, this crown was still in place when the patient

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## PEARLS OF WISDOM

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turned 102 in 1967<sup>1</sup>. Unfortunately, at this time, dentists were using pure copper cements (97% cupric oxide) that proved to be toxic. Fortunately, research shows that the 2% copper cements were as or more effective than 97% copper cements and 2% copper cements were less toxic<sup>2</sup>. A lower concentration of copper is able to disrupt the oral biofilm.

The enamel rods and dentinal tubules provide teeth with a natural porosity that is ideal for the attachment of a biofilm. Once attached this biofilm provides a safe harbor for bacteria. This protects the bacteria from the antimicrobial activity of saliva. It is the host's main defense against invading pathogens through antibodies and metabolites. For a germicidal base to be effective, it must be able to penetrate the biofilm. Copper cements are able to break through the biofilm because they contain galvanically activated copper. Through the repulsion of silver and iron ions in this galvanically activated system, copper ions are able to bust through the biofilm and remain active in the dentinal tubules destroying bacteria<sup>3</sup>. Copper and iron are essential nutrients needed for normal physiology and healing. In the search for new and improved solutions for old problems, copper

cements offer another option for the reduction of problems associated with esthetic fillings. Hopefully, this review will prompt dentists to reflect on the history of copper cements. Copper cements have positive attributes not found in other restorative materials. The copper cements also have the best germicidal activity and provide essential factors needed for physiology.

### Patient 1

This 66-year-old presents with new caries adjacent to an existing crown. With an aggressive caries rate due to a poor diet, she is a poor candidate for a replacement crown. The patient selected the option for a filling repair. First, the removal caries adjacent to the full crown is performed (Figure 1). Following removal of the decay a copper zinc phosphate cement base\* is placed (Figure 2). The restoration is finished with a glass ionomer restorative material\* (Figure 3).

### Patient 2

This 55-year-old smoker has aggressive caries on several teeth that required endodontic therapy (Figure 4). A post\* was cemented with copper zinc phosphate cement to recruit the root for core retention (Figure 5). A composite core paste\* was placed into the retentive head of the post. The new crown margins will

be on solid root structure to form a ferrule (Figure 6). The final crown will have a metal collar.

### Patient 3

This 94-year-old patient reports that this full crown restoration was placed soon after she was married 62 years ago (Figure 7). There is currently new decay and existing repairs to the dentinal core. Clinical exam shows no caries adjacent to the copper zinc phosphate cement placed in the central occlusal pit (Figure 8). Aggressive caries was present in other areas of the tooth.

The caries was removed and a resin liner\* was placed. Copper zinc phosphate powder was added to the liner to treat microporosities. Then a copper zinc phosphate core build-up was placed prior to full crown restoration (Figure 9).

**Dr. Dean Elledge was selected by the nation's largest clinical news magazine, *Dentistry Today*, as a top clinician in continuing education for 2006. Dr. Elledge graduated in 1983 from the UMKC School of Dentistry. He received his Masters in Prosthodontics from the University of Minnesota in 1985. He teaches in the Department of Advanced Education in General Dentistry at UMKC and practices in the Kansas City area. He has lectured to dental societies throughout the U.S. and in 18 universities. He lectures on restorative dentistry for the difficult dentition. He is married to Sally Elledge, RDH, MS, who is**

**Clinical Faculty in the UMKC Department of Dental Hygiene. They have three children; Lindsay, 18 years old, Abby, 15 years old, and Samantha, 9 years old. His current hobbies are supporting Chief's football, when they are winning, and restoring his 1970 vintage Opel car. For questions, contact him at [elledge@umkc.edu](mailto:elledge@umkc.edu).**

**Lindsay English is a third year dental student at UMKC School of Dentistry. Lindsay is from Fort Smith, Ark., and earned a Bachelor of Science at Baylor University.**

### \* MATERIALS LIST

- Cooley & Cooley Ltd., 8550 Westland West Blvd., Houston, TX 77041, 281-897 0009
  - Doc's Best Red Copper Zinc Phosphate Cement – Base
  - Copalite Resin Liner
- Fuji IX Glass Ionomer Capsules Self-cure, G.C. America, Alsip, IL 60803, 800-323-7063
- Integra Post- Premier Dental, 1710 Romano Drive, Plymouth Meeting, PA 19462, 888-773-6872
- Core Paste, Den-Mat Corporation, 2850 Skyway Drive, North Back Doors, Santa Maria, CA 93455, 800-445-0345

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	7% Copper Zinc Phosphate Cement	Glass Ionomer with Fluoride	Glass Ionomer without Fluoride	Resin with Fluoride	Resin without Fluoride	Polycarbonate Cement
Toxicity to Microbes	+	+	-	+	-	-
Toxicity to Biofilm	+	-	-	-	-	-
Galvanic Activation of Metallic Salts	+	-	-	-	-	-
Infinitesimal Solubility of Metallic Salts	+	-	-	-	-	-
Prolonged Activity of Antimicrobial Qualities	+	-	-	-	-	-

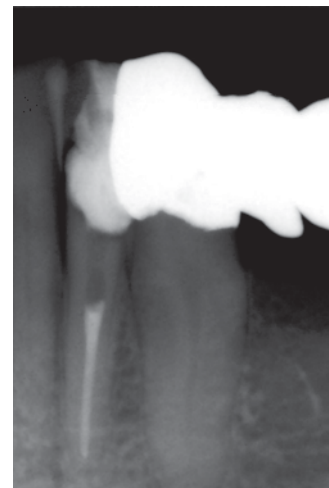


Figure 4: Bacterial invasion has overcome the host's defense



Figure 1: Caries removal adjacent to existing full crown restoration.



Figure 2: The copper zinc phosphate cement base is placed.



Figure 3: The restoration is finalized with glass ionomer restorative material.

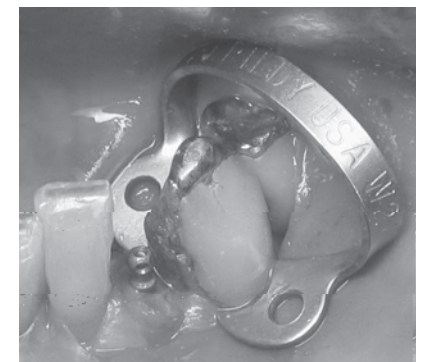


Figure 5: A prefabricated post is cemented with copper zinc phosphate.



Figure 6: Composite core with crown margins on root.



Figure 7: Marginal decay in a 60-year-old restoration.



Figure 8: Decay is absent adjacent to a 60-year-old copper zinc phosphate base in the central pit.

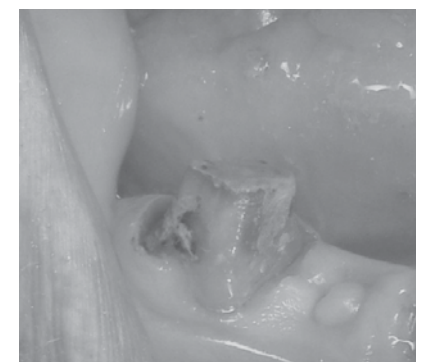


Figure 9: Lined dentin and core build-up will facilitate a healing environment.