

Summary of 2010 “Dental Myths & Controversies IV” Continuing Education Course

The seventh annual PROH Conference was held on October 29, 2010 in Portland at the World Trade Center. In keeping with our mission of promoting evidence-based dentistry, we once again focused on “myths and controversies” that face us in dentistry today. Six OHSU faculty members introduced their topic, identified the opposing viewpoints, reviewed the relevant research, and presented their position on the topic based on their understanding of the evidence. Each presentation was followed by a brief question and answer period. Below is a summary of the course.



“Non-Carious Cervical Lesions: Does Occlusion Affect Their Formation and Treatment?” by Scott Dyer, D.M.D., M.S., Ph.D., assistant professor in the department of restorative dentistry and a private practitioner.

There is strong support that abrasion and erosion are present in the development of NCCLs but they are not the sole cause of cervical wear. Research indicates a significant correlation between the prevalence of NCCLs and the presence of occlusal wear facets. There is insufficient evidence to confirm that abfraction (a theoretical process whereby occlusal forces create stresses in enamel and dentin along the cervical area) exists. Treatment involves managing 1) occlusal forces, 2) toothbrush abrasion, and 3) decreased pH levels. Restoration of NCCLs should be considered if dentin is exposed or if the tooth is sensitive. The ideal restorative material is dependent upon the condition and involvement of the cementum, dentin and enamel.



“Alternative Caries Diagnostic Techniques: Time to Throw Away the Explorer?” by Rose McPharlin, D.D.S., assistant professor in the department of restorative dentistry, a group leader in the pre-doctoral clinic, and a practitioner in the OHSU Faculty Dental Practice.

There have been a variety of caries detection devices on the market. Explorers and radiographs have their limitations in the diagnosis of non-cavitated lesions, so caries detection devices are useful in confirming changes in tooth mineralization. The technological advances have included ultrasound, the electric caries monitor, infrared/LED devices such as Caries ID and QLF/LF devices such as the DIAGNOdent or DIAGNOdent Pen. An ideal diagnostic method should offer a high level of specificity (low false positives) and be highly sensitive (low false negatives). DIAGNOdent and DIAGNOdent pen have the most published research and are found to be highly accurate in diagnosing lesions that are visually and radiographically undetectable.



“Antimicrobial Agents: Are They Necessary for Successful Endodontics?” by Christine Sedgley, B.D.S., M.D.Sc., M.D.S., F.R.A.C.D.S., M.R.A.C.D.S. (ENDO), Ph.D., associate professor and chair of the department of endodontology.

Antimicrobial agents used in endodontic treatment include irrigants and interappointment intracanal medicaments. Current research continues to indicate that sodium hypochlorite (NaOCl) is an effective antimicrobial agent for irrigation. It is better than saline and its effects can be enhanced by the chelating irrigant EDTA. Although chlorhexidine gluconate is also a useful antimicrobial irrigant, it is not active against all bacterial endospores, some fungal spores or viruses and is therefore not as effective an antimicrobial agent as NaOCl. The frequency of irrigation and mechanical agitation of the NaOCl irrigant during preparation is more important than the concentration. However, 6% NaOCl penetrates deeper into dentinal tubules than 1% NaOCl. For interappointment intracanal medication, evidence from clinical studies indicates that calcium hydroxide (Ca(OH)₂) remains the best medicament available to reduce residual

microbial flora in the root canal system.



“Over-the-Counter Dental Products: Do They Work?” by Erinne Lubisich, D.M.D., assistant professor in the department of restorative dentistry and a private practitioner.

Bleaching: There is evidence that whitening products are effective. All trials were short term and the majority of the studies were at high risk of bias and were either sponsored or conducted by the manufacturers. **OTC pain medications:** Ibuprofen 400 mg was consistently more effective than aspirin 650 mg, acetaminophen 600 mg, and both aspirin and acetaminophen when combined with codeine 60 mg. Ibuprofen 800 mg has been shown to have a higher analgesic effect than 1000 mg acetaminophen plus 60 mg of codeine. **Sensitivity toothpastes (containing potassium):** Studies failed to show a significant effect at the 6 to 8 week assessment. **Products for prevention of oral herpes:** Studies show mixed results. Prophylactic lysine can be useful in the management of select cases of RHL. Some studies of N-docosanol (Abreva) demonstrate reduced healing time. **Electric tooth brushes:** Brushes with a rotation oscillation action removed plaque and reduced gingivitis more effectively than manual brushes. No other power designs were as consistently superior to manual toothbrushes.



“Evidence-Based Dentistry: Does it Work in the Real World?” by Kevin Kwiecien, D.M.D., F.A.G.D., assistant professor in the department of restorative dentistry and a private practitioner.

Dr. Kwiecien described the benefits and difficulties of using evidence-based dentistry in private practice. He walked the audience through the process of using current literature to find well-supported studies and trends, specifically the correlation between nighttime bruxism and sleep apnea. With over 16 years in private practice and hundreds of hours of continuing education, he noted that there is always a need to confirm what dentists are seeing in private practice, regardless of previous experiences. Although there are some inherent frustrations when beginning a review of current literature, refining the search becomes easier. Dr. Kwiecien emphasized that the most important outcome is to at least find the current trends in the topic, be open to the possibility that there is more, and allow all three (each practitioner’s experience/observations, specific literature, and obvious trends) to help guide appropriate treatment for each patient.

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“Sealants: Under Used or Over-Hyped?” by **John Engle**, D.D.S., assistant professor and director of the pre-doctoral clinic in the department of pediatric dentistry.

Dr. Engle reviewed the guidelines put forth by the American Academy of Pediatric Dentistry in which an emphasis is placed on the patient's caries risk, not the patient's age or time elapsed since tooth eruption. A 2004 Cochrane Database System Review determined that the effectiveness of sealants is obvious at high caries risk, but information on the benefits of sealing specific to different caries risks is lacking. Both glass ionomer and resin sealants are suitable sealant materials; there is no evidence that one is superior to the other.