



Pacific City, Oregon
(Photo by Bruce Barnes)

Message from the Director

We often think of autumn as an end: the end of summer, the end of warm weather, the end of vacations, and so on. But at the OHSU School of Dentistry, it marks the start of a new school year, the start of classes and the start of dental education for 75 new students.

It also marks the time when we look forward to the PROH conference. Our theme of "myths and controversies" has continued to be very well-received, so that is our theme again this year. We will have six presentations, all based on topics our PROH members have said they needed information on to help make evidence-based clinical decisions.

Faculty from the School will make five of the six presentations at the PROH conference. We have a new twist on the conference this year: a dental student presentation. One of the areas that we have tried to emphasize more in the dental school is integrating evidence-based decision making into the curriculum so future dentists begin their careers with critical thinking skills. The dental students have formed several vertically-integrated literature review groups (each student group will have at least one second-, third- and fourth-year dental student). We took several of the topics requested by PROH members and gave them to these student teams to do a literature review.

We are asking dental student teams to prepare a presentation that: 1) answers the clinical question; and 2) describes how they went about finding appropriate evidence to answer the question. The teams will then give their presentation to a panel of OHSU faculty, who will select the winning team. The winning team will be invited to present at the PROH conference.

We are hoping that conference attendees will be interested to see how we are instructing our students to conduct a literature

search so they can compare it to their own strategies for answering clinical questions as they arise.

We are still trying to obtain funding that will allow us to pursue studies on the topic that you have indicated as being your highest priority: cracked teeth. We recently found out that the study we applied for in the spring, that I mentioned in our spring newsletter, was not funded. That's not unusual: only about 15 to 20 percent of all grant applications to the National Institutes of Health are funded. So, we're trying again.

If funded, this study would have 30 of our PROH dentists use their "usual" clinical evaluation techniques for cracks (examination with magnification, tactile, transillumination, radiograph) on extracted teeth. We would then immerse the teeth in dye, sequentially reduce them and photograph every 0.1mm, and input the images into a computer-aided program that will render a 3-D reconstruction of the cracks in the teeth. This data would be correlated with the clinical criteria in an attempt to determine which clinical features of cracks are more associated with ones that may be more ominous to the fate of the tooth, for example, cracks that are longer, deeper, or impinge on structures such as the pulp or root. More to come.

We also concluded the analysis of the data collected after the first year of our Premise posterior composite study. We are providing more information about that study in this newsletter. Thanks to the great work of PROH dentists Mark Driver, Walt Manning, George McCully, Ron Selis, and Scott Travelstead.

Thomas J. Hilton, D.M.D., M.S.



Tom Hilton, D.M.D., M.S.

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registration materials inside!
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Sixth Annual PROH Conference and Continuing Education Course

We are eagerly awaiting the sixth annual Practice-based Research in Oral Health (PROH) conference scheduled for Friday, Nov. 13. In keeping with our mission of contributing to the advancement of evidence-based dental practice, we are presenting "Dental Myths and Controversies III." All of the topics were suggested by PROH members via an online survey. There are a couple additions to the event this year – keep reading!

We have a power-packed lineup of five OHSU faculty members who will address some of the most contentious myths and controversies facing us in dentistry today. Each speaker will have approximately 30 minutes to introduce his/her topic, identify the opposing viewpoints, review the relevant research, present his/her position on the topic based on his/her understanding of the evidence and then answer your questions. Making the session even more interesting and interactive for the audience, attendees will have the opportunity to vote electronically (and anonymously) before and after the evidence is presented as to where they fall on the issue. Topics and speakers can be seen on page six.

Our sixth presentation this year will be made by a team of dental students. As a means of emphasizing the importance of an evidence-based foundation for practicing dentistry, as well as encouraging students to pursue research opportunities and participate in research, a competition is being held in October. The winners will investigate and present one of the topics suggested by PROH members in our online survey. See page one for more information about the dental student presentation.

Our new location is the A-dec Education Center in Newberg – that translates into free parking for you! In addition, A-dec has generously offered free guided tours of their facility.

You and your dental staff won't want to miss this important and timely information of vital importance to all practitioners. Use the insert to sign up or contact OHSU's Continuing Dental Education office at 503.494.8857.

Following the continuing education course, join us for the business luncheon.

Steering Committee Members

Private practitioners:

Mark Driver, D.M.D., Roseburg

Mark Jensen, D.M.D., Bend

Walt Manning, D.M.D., Albany

George McCully, D.M.D., Eugene

Dentist – open position

Office manager – open position

OHSU faculty/staff:

Cindy Barnes, R.D.H., M.B.A., PROH Network Manager

LJ Fagnan, M.D., ORPRN Director

Jack Ferracane, Ph.D., PROH Investigator

Tom Hilton, D.M.D., M.S., PROH Director

Cindy Morris, M.D., Ph.D., OHIP Director

Meet Your Steering Committee

Mark E. Jensen, D.M.D., has been a PROH steering committee member since PROH's inception. He says he "was intrigued by the opportunity to help design studies to answer the questions we all have in our practices. It seems there are questions we all want answered and we as dentists can be heard asking: Why doesn't someone do a study that tells us...? Here was my chance to get involved and help get the questions answered."

As a Eugene, Ore. native, Mark completed his bachelor's degree and graduate studies at Oregon State University before moving on to the OHSU School of Dentistry. He continued his formal education in a general practice residency at Langley Air Force Base in Virginia. Following his residency at Langley, he was officer in charge at RAF Greenham Common in England before settling in Bend, Ore., where he opened a private practice in 1992.

Mark began participating in organized dentistry while student body president at the dental school. In addition to membership in numerous dental organizations, he has served as president for the Oregon Dental Association and the Oregon Academy of General Dentistry, and as a delegate to the American Dental Association and the Academy of General Dentistry. He has been awarded fellowships by the International College of Dentists, the American College of Dentists and the Academy of General Dentistry, and was Dentist of the Year in 2004 for the Oregon Academy of General Dentistry. Mark has also been very active in many civic and community organizations.

Mark is married to Leslie, and they have two children, Makayla and Caiman. He is an outdoor enthusiast enjoying hunting, fishing, white water rafting, scuba diving and gardening. He says he has "the best patients in the world, a great staff, and I work in a beautiful part of a wonderful state." He hopes to travel, learn Spanish, white water raft in the tropics, teach his son to love the out of doors as much as he does, and volunteer internationally.

Thanks, Mark, for making time in your busy schedule to represent PROH members' interests on the steering committee!



6th Annual PROH Conference
“Dental Myths and Controversies III”
Friday, November 13, 2009

Join us for an exciting, fast-paced morning with six speakers addressing some of those confusing and contentious myths and controversies that face us in dentistry today. OHSU faculty members will each introduce their topic, identify the opposing viewpoints, review the relevant research, present their position on the topic based on their understanding of the evidence, and answer your questions. Topics and speakers are as follows:

“What are the long term effects of teeth whitening?” by **Juliana da Costa**, D.D.S., M.S., assistant professor in the department of restorative dentistry, and a practitioner in the OHSU Faculty Dental Practice.

“Amorphous Calcium Phosphate (ACP): Is it effective?” by **John Mitchell**, Ph.D., associate professor in the department of restorative dentistry.

“Are chemotherapeutic agents effective in treating periodontal disease?” by **Stephen Hokett**, D.D.S., assistant professor of periodontics, and a private practitioner.

“Does occlusion affect the health and stability of the stomatognathic system?” by **Scott Dyer**, D.M.D., M.S., Ph.D., assistant professor in the department of restorative dentistry, and a private practitioner.

“Does a link exist between human papillomavirus and oral/oropharyngeal cancer?” by **Jeff Stewart**, D.D.S., M.S., associate professor in the department of pathology and radiology.

“How to find scientific evidence to answer a clinical question?” by **a team of OHSU dental students**. This presentation will use one of the topics submitted by PROH practitioners as an example. Teams of students will compete in October to select the top presenter.

You won't want to miss this important and timely information of vital importance to all practitioners. An optional free **tour of A-dec** will be provided; pre-registration required.

When:
Friday morning
November 13, 2009

Course:
#DNCSEL1109

Time:
8:00 a.m. to noon

Early Tuition:
Through 10/25/09
\$140 dentist
\$120 staff

Tuition:
After 10/25/09
\$150 dentist
\$130 staff

Credit:
4 hours

Location:
A-dec
Education Center
2601 Crestview Drive
Newberg, OR

Turn page for registration form

PROH Conference Registration Form

You will receive acknowledgement of your enrollment by mail.
One registration form for each person

Last name: _____ First name: _____ M.I.: _____

Address: _____ City, State, Zip: _____

Office phone: _____ Home phone: _____

Fax number: _____ E-mail address: _____

License/ADA/GD/EFDA #: _____ (for CE credit recording only)

Title (please circle): DDS DMD RDH* CDA/EFDA* CDT* Retired Other

*Employer name: _____

Please register me for the following:

Friday, November 13, 2009
A-dec Education Center
2801 Crestview Drive
Newberg, OR

	PROH Participant		Non-PROH Participant	
	Before 10/25/2009	10/25/2009 & After	Before 10/25/2009	10/25/2009 & After
<input type="checkbox"/> Dental Myths and Controversies III 8:00-12:00	\$70** dentist \$60 staff	\$75** dentist \$65 staff	\$140 dentist \$120 staff	\$150 dentist \$130 staff
<input type="checkbox"/> PROH Business Meeting and Luncheon 12:15-1:45	Dentists only Free	Dentists only Free	Dentists only Come learn about practice- based research! \$15	Dentists only Come learn about practice- based research! \$15
<input type="checkbox"/> PROH Tour of A-dec 2:00-3:00	Free	Free	NA	NA
<input type="checkbox"/> Lunch and Tour of A-dec 12:15-1:00 Lunch 1:00-2:00 Tour	NA	NA	\$15 for lunch Tour is free	\$15 for lunch Tour is free
Total Amount Enclosed	\$ _____	\$ _____	\$ _____	\$ _____

** This rate is only available to those attending the PROH Business Meeting and Luncheon.

Check/Money Order payable to OHSU
 MasterCard Visa

Card number: _____ Exp. Date: _____

Signature of card holder: _____

Return to: OHSU – CDE Department, 611 SW Campus Drive, Portland, OR 97239-3097
Phone: 503-494-8857 or 800-232-6478 Fax: 503-494-2973 E-mail: kinoo@ohsu.edu

Year One Results of 24-Month Posterior Composite Study

Study Objective: The purpose of this study is to evaluate the ability of Premise resin composite to provide clinically acceptable restorations over a 24-month period. This report provides the outcomes after one year of clinical performance of the restorations.

Methods and Materials. Kerr Corporation has developed a new low-shrinking composite (Premise) designed to reduce polymerization shrinkage. This evaluation is being accomplished using both direct clinical (modified Ryge criteria) and indirect (wear measurement) methods. A training session was conducted for five practitioners and office personnel participating in the study. A total of 50 class 1 and 2 restorations were placed by five PROH practitioners, each completing 10 Premise restorations.

The study teeth were evaluated for vitality prior to restoration by objectively testing for cold response with ice (positive or negative response). Teeth testing negative to cold were additionally evaluated with an electric pulp test (EPT) for vitality (positive or negative response). Only teeth testing vital to cold and/or EPT were enrolled in the study. The patients were asked for their subjective history of temperature sensitivity on each study tooth (positive or negative history). All restorative procedures were performed with rubber dam isolation. The occlusal cavo-surface margins were not beveled. All cavity preparations received the same adhesive system, Optibond All-in-one self-etching dental adhesive (Kerr). The adhesive was light cured for 10 seconds with an Optilux 501 (Kerr) visible light-curing unit. For each restoration, composite was placed in increments of two mm or less in depth and light polymerized for 40 seconds per increment with the Optilux 501 curing unit. All restorations were contoured and finished with finishing diamonds and polished with aluminum oxide impregnated rubber wheels, discs and cups (Kerr). No surface sealant was placed.

Assessments were conducted by the practitioners at the insertion appointment, at the baseline appointment (approximately 2 weeks after insertion), and at approximately one year after insertion. Digital photographs were taken as well as sextant/quadrant polyvinylsiloxane (PVS) impressions. Casts were poured at the OHSU School of Dentistry. The data was analyzed with descriptive statistics.

Results. The associations between insertion, baseline, and follow-up for various characteristics were presented using frequencies and percentages in tables. Correlations were computed using Spearman's rank correlation coefficient. All hypotheses were tested using generalized estimating equations (GEE) and exchangeable working correlation model to account for clustering among dentists with different models.

Subjective cold. There was a significant correlation between subjective cold assessment and restoration width at one year, but not at baseline. As the restorations became larger, they tended to show more subjective cold response from patients at one year ($p < 0.001$). Interestingly, there was no correlation between restoration depth and subjective cold at either baseline ($p=0.67$) or one year ($p=0.35$).

Objective cold. The change in objective cold from baseline to one year was significant ($p=0.016$). There was a significant ($p=0.04$) but weak positive correlation (0.29) between restoration width and objective cold at baseline, but no correlation by one year ($p=0.65$). There was no correlation between objective cold and restoration depth at baseline ($p=0.14$) or at one year ($p=0.06$).

Surface roughness. There was not a significant change in surface roughness from baseline to one year ($p=0.07$).

Color match. There was not a significant change in color match from baseline to one year ($p=0.28$).

Marginal integrity. The marginal integrity showed a significant shift ($p=0.001$) from R (no visible evidence of ditching along the margin) to S (visible evidence of ditching or open gaps along the margin not extending to the DEJ) rankings over the first year of the study.

Marginal discoloration. Marginal discoloration showed a significant shift ($p=0.001$) from R (no discoloration on the margin between the restoration and tooth structure) to S (discoloration on the margin between the crown and tooth structure) rankings over the first year of the study.

Occlusal anatomic form. One restoration failed (MO on a maxillary first molar) due to a fracture of a portion of the occlusal and proximal aspect of the restoration. There was no significant change in occlusal anatomic form from baseline to one year ($p=0.61$).

Proximal anatomic form. One restoration failed (MO on a maxillary first molar; the same restoration as noted in the occlusal anatomic form section above) due to a fracture of a portion of the occlusal and proximal aspect of the restoration. There was no significant change in proximal anatomic form from baseline to one year ($p=0.93$).

In addition to the above direct assessments conducted by the practitioners who placed the restorations, indirect evaluations were conducted by OHSU faculty. There was a good association between the direct assessments and the photographic assessments. Analysis of the casts made of the restorations at baseline and at one year supported the clinically acceptable ratings for marginal integrity. There was a trend for increased exposure of the occlusal cavo-surface margins between baseline and one year but no apparent cases in which marginal integrity had degraded to the point that would be considered clinically unacceptable. Evaluation of the casts for wear did not reveal occlusal wear as being unusual compared to other posterior composites at one year.

Conclusion. Premise showed good clinical performance after one year of clinical service. The increase in marginal staining and marginal ditching is typical of results in other posterior composite clinical studies.

Participating Dental Practices. Mark Driver, Walt Manning, George McCully, Ron Selis, and Scott Travelstead.



Newsletter of the Practice-based Research in Oral Health network

PROH Network
OHSU School of Dentistry
Mailcode SD504
611 SW Campus Drive
Portland, Oregon 97239

www.ohsu.edu/proh/

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Portland, Oregon

Contact PROH

6th Annual PROH Conference

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Dental Myths and Controversies III **Friday, November 13, 2009**

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Surprise topic plus “How to find scientific evidence to answer a clinical question?”
Team of dental students.

Registration materials on pages three and four