



## Message from the Director

It's hard to believe, but the 2008-2009 academic year at the OHSU School of Dentistry has begun. I hope everyone had a great summer, full of fun activities and time for family, friends, and relaxation. The rest of the newsletter will address PROH's various activities, but I would like to take a moment to reflect on the past. This fall marks the fifth anniversary for the Practice-based Research in Oral Health (PROH) network. As many of you are aware, the concept behind PROH is to conduct clinical studies in the same setting where most oral health care is provided: the dental practice. In that way, we can reach a large and diverse population, while maintaining an adequate level of control of the design and conduct of the study, to provide "real world" research results to the profession. PROH came into existence thanks to a \$200,000 grant from the Oregon Opportunity campaign, a 2001 public/private partnership to advance biomedical research at OHSU. However, all ongoing PROH activities must be self-supporting. In other words, we must secure outside grants to pay for any research we conduct. That makes for a tough fiscal environment, but PROH has done well. Here is a brief review of PROH accomplishments, thanks to your support and efforts:

### Research Projects

**Cracked tooth survey.** A preliminary evaluation of the presence and location of cracks in teeth. 129 dental offices invited and 48 participated.

**3M temporary crown clinical trial.** A clinical evaluation of the new Protemp temporary crown system. 10 dental offices invited and all participated.

**Kerr Premise posterior composite clinical trial in progress.** A clinical evaluation of Premise composite and Optibond All-in-one adhesive. 5 dental offices invited and all are participating.

**Effects of eugenol concentration in ZOE sur-**

**vey.** A survey asking about practitioners' understanding of the effects of eugenol-containing materials on adhesive bonding. 96 dental offices invited and 30 participated.

**Unmet dental needs screening.** A screening examination by a medical clinic and a patient survey in Baker City on unmet dental problems. 1 dental office and 1 medical office invited and both participated.

**Electronic survey to determine acceptance of online surveys.** A survey on surveys: an attempt to get an idea of how many PROH practitioners would be willing to participate in electronic surveys. 99 dentists invited and 53 participated.

**Electronic survey of conference topics.** A survey soliciting feedback for topics for the 2008 annual PROH continuing education course on "dental myths and controversies." 129 dentists invited and 44 participated.

**School of Dentistry curriculum survey.** A request from the department of restorative dentistry for practitioners to provide input on topics that should be included in the undergraduate curriculum. 123 dentists invited and 38 participated. Results from the first two studies were accepted for presentation at the International Association for Dental Research annual meetings in 2007 and 2008.

### Continuing Education and Annual Meeting

Another great success has been the annual PROH meeting. We have had some wonderful continuing education presentations, and the business lunch meeting after the continuing education course has allowed us to socialize and get everyone updated on PROH's status and future plans. Last year, the continuing education course focused on a fast-paced, evidence-based series of presentations on a variety of topics titled "Dental

*(Continued on page 7)*



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

### IN THIS ISSUE

Fifth Annual PROH Conference & Continuing Education Course.....2

PROH Weighs in on SOD Curriculum.....2

**PROH Conference Registration Form.....3-4**

Temporary Crown Study Results.....5

SOD Curriculum Survey Study Results.....6



# Fifth Annual PROH Conference and Continuing Education Course

The agenda is set and speakers are eagerly awaiting the fifth annual Practice-based Research in Oral Health (PROH) conference scheduled for Friday, Nov. 21<sup>st</sup> at the World Trade Center in Portland. In response to the success of last year's continuing education course and, in keeping with our mission of contributing to the advancement of evidence-based dental practice, we are presenting "Dental Myths and Controversies II." All of the topics were suggested by you via an online survey.

We have a power-packed lineup of six 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 the topic(s), identify the opposing viewpoints, review the relevant research, present their position on the topic based on their understanding of the evidence and then answer your questions. Making the session even more interesting and interactive for the audience, the first 100 attendees that arrive 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 to the right.

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 to review results of completed studies and plan for future studies.

## Topics and speakers:

**Is local anesthetic nerve damage affected by injection technique or drug used?**

by Leon A. Assael, DMD

**Does ortho treatment harm, improve or have any affect on a patient's perio status?**

by Jennifer Crow, DDS

**Caries management: Is fluoride enough?**

by Juliana da Costa, DDS, MS

**Adhesive systems: Does simpler = better?**

by Jack Ferracane, PhD

**What is the best material for pulp capping?**

by Tom Hilton, DMD, MS

**What is the best biopsy technique?**

by Cindy Kleinegger, DDS, MS

## 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

## Interested in serving as a Steering Committee member?

Contact Tom Hilton for more information.  
503.494.8672 or [hiltont@ohsu.edu](mailto:hiltont@ohsu.edu)

## PROH Weighs in on SOD Curriculum

What skills/knowledge should be taught in dental school? Educators always struggle with limited time and a plethora of topics that could be included. New technology and information are being generated at a rapid rate in dentistry. Dental education must continually reassess its curricular content to ensure that the new dentist is provided with the appropriate skills and knowledge to begin practice. As experienced dental practitioners, the PROH network is a valuable resource for providing input about current and future curricular content for restorative dentistry.

In designing this survey, we excluded essential components (e.g., full dentures, PFM crowns, etc.) and we focused on areas that may be a bit more controversial or variable in terms of emphasis from dental school to dental school. The survey asked to have seven components of undergraduate dental education rated using the following scale:

- \*Essential knowledge/skill for current/future dental practice;
- \*Important and appropriate to cover to some extent, but not essential;
- \*Not essential and/or not necessary to include;
- \*Unsure or no strong feeling either way.

We also asked for other topics that you felt should be emphasized in the restorative dentistry curriculum. See the results on page six.

# 5<sup>th</sup> Annual PROH Conference

## “Dental Myths and Controversies II”

### Friday, November 21, 2008

Join us for an exciting, fast-paced morning with six speakers addressing some of those confusing and contentious myths and controversies in dentistry. 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 is the best material for pulp capping?” by Tom Hilton, D.M.D., M.S., Alumni Centennial Professor in Operative Dentistry.** He directs the PROH network and maintains a part time private dental practice.

**“Caries management: Is fluoride enough?” by Juliana da Costa, D.D.S., M.S., assistant professor, department of restorative dentistry and a practitioner in the OHSU Faculty Dental Practice.**

**“Does orthodontic treatment harm, improve, or have any affect on a patient’s periodontal status?” by Jennifer Crowe, D.M.D., third-year resident, department of orthodontics.**

**“What is the best biopsy technique?” by Cindy Kleinegger, D.D.S., M.S., associate professor, department of pathology and radiology and a practitioner in the OHSU Faculty Dental Practice.**

**“Adhesive systems: Does simpler = better?” by Jack Ferracane, Ph.D., chair, department of restorative dentistry and division director, biomaterials and biomechanics.** He is also a principal investigator for the PROH network.

**“Is local anesthetic nerve damage affected by injection technique or drug used?” by Leon A. Assael, D.M.D., professor and chair, department of oral and maxillofacial surgery and director of the oral and maxillofacial surgery residency program.**

You won’t want to miss this important and timely information of vital importance to all practitioners.

**When:**

Friday morning  
November 21, 2008

**Course:**

#DNCSEL1108

**Time:**

8:00 a.m. to noon

**Early Tuition:**

Until 11/2/08:  
\$140 per dentist  
\$120 per staff

**Tuition:**

After 11/2/08:  
\$150 per dentist  
\$130 per staff

**Credit:**

4 hours

**Location:**

World Trade Center  
Auditorium  
Bridge Level  
121 SW Salmon  
Portland, Oregon

*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 21, 2008 World Trade Center 121 SW Salmon Portland, OR 97204	PROH Participant		Non-PROH Participant	
	Before 11/2/2008	11/2/2008 & After	Before 11/2/2008	11/2/2008 & After
___ Dental Myths and Controversies II 8:00-12:00	\$70** dentist \$60 staff	\$75** dentist \$65 staff	\$140 dentist \$120 staff	\$150 dentist \$130 staff
___ PROH Business Meeting and Luncheon 12:15-1:45	Dentists only - No charge	Dentists only - No charge	Dentists only Come learn about practice-based research! \$10	Dentists only Come learn about practice-based research! \$10
<b>Total Amount Enclosed</b>	\$ _____	\$ _____	\$ _____	\$ _____

\*\* 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: [kingg@ohsu.edu](mailto:kingg@ohsu.edu)

# PROH Completes Clinical Evaluation of a New 3M™ ESPE™ Temporary Crown

**Study Objectives.** The objective of this study was to clinically evaluate the use of the new temporary crown system, Protemp (3M ESPE™), after two-to-four weeks of clinical function.

**Methods.** 3M ESPE Protemp Temporary Esthetic Crown is a self-supporting, soft, malleable composite material that allows for a custom fit. The crowns were cemented using a non-eugenol temporary cement (TempBond NE, Kerr) to minimize the obtundant effect of eugenol on post-operative sensitivity. A combined lecture and hands-on training session was held for ten practitioners and office personnel participating in the study. Each practitioner placed ten temporary crowns. Baseline and Recall assessment score sheets were completed for each composite temporary crown placed. The baseline review was completed at the crown preparation / temporary crown fit appointment, and the recall assessment was carried out at the appointment for the temporary crown removal and final seating of the permanent crown. The following areas were assessed: retention, health of the adjacent gingival tissues, proximal and occlusal contacts, post operative temperature and biting sensitivity, surface roughness, marginal integrity, marginal discoloration, color match, and surface staining. In addition, practitioners were asked to assess the ease of adaptation and placement of the Protemp crowns compared to their normal technique.

**Results.** The study consisted of 101 subjects attending 10 dental clinics from April 2007 to October 2007. The distribution of teeth included in the study are as follows: Maxillary second molars 5, maxillary first molars 26, maxillary second premolars 9, maxillary first premolars 9, mandibular second molars 17, mandibular first molars 19, mandibular second premolars 13, mandibular first premolars 3. The overall retention loss rate of a temporary crown was 13% (most due to fracture). Specific results were as follows:

**Temperature Sensitivity.** There was no significant change in the overall patient reported temperature pain scores pre-op and post-op ( $p=0.92$ ).

**Biting sensitivity.** The difference between biting sensitivity pre-op and post-op was not significant ( $p=0.81$ ).

**Gingival Health.** There was no overall significant change in gingival health between pre-op and post-op ( $p=.86$ ).

**Anatomic Form.** There was no overall significant change in anatomic form between pre-op and post-op ( $p=.82$ ).

**Number of Attempts.** Among the study participants, 80 percent received a successful crown on the first attempt. There was a significant increase in the odds of re-cement as the difficulty of placement increased ( $p=0.006$ ). In other words, the more trouble the practitioner had in fitting the temporary crown initially, the more likely the temporary crown would need to be re-cemented before the permanent crown seating appointment.

**Surface Stain.** The change in the staining was not statistically significant, although there was a trend towards increasing surface stain between pre-op and post-op ( $p=.08$ ).

**Color Match.** The change in color match between pre-op and post-op was not statistically significant ( $p=.16$ ), although there was a trend towards a more yellow hue with time.

**Marginal Discoloration.** There was a significant increase in marginal discoloration between pre-op and post-op ( $p<.001$ ).

**Marginal Integrity.** The change in marginal integrity between pre-op and post-op was not statistically significant ( $p=.96$ ).

**Surface Roughness.** The difference in surface roughness between pre-op and post-op was not statistically significant ( $p=.11$ ).

**Ease of Use:** Forty-eight percent of practitioners rated the ease of placement to be comparable to their current temporary crown technique, 27 percent rated it better than their current technique and 25 percent rated it worse than their current technique.

**Budget.** \$48,875; all funds used for practitioner reimbursement and PROH study support (none of the OHSU investigators received any funds or salary support).

**Participating Dental Practices.** Kinley Adams, Greg Attack, Barry Evans, Gary Genzer, Mark Jensen, Richard Knight, Scott Nicholson, Mehdi Salari, Shane Samy, and Tom Walker.

# PROH Weighs in on SOD Curriculum

(Continued from page 2)

An online survey was sent to 124 members of the PROH network. There were a total of 38 responses. Below is a summary of those responses. See how your thoughts compare to your colleagues!

	Essential	Important	Non-essential/ uncertain
<b>Single Unit Restoration</b>			
All-ceramic inlays/onlays	26%	55%	19%
All ceramic crowns	65%	35%	0%
Composite inlays/onlays	11%	63%	26%
Composite crowns	5%	59%	66%
3/4 to 7/8 crowns	24%	53%	24%
Cast post and cores	29%	50%	21%
Prefabricated metal posts	53%	40%	8%
Prefabricated fiber posts	45%	47%	8%
CAD/CAM restorations	13%	47%	40%
"Prep-less" porcelain veneers	5%	45%	50%

	Essential	Important	Non-essential/ uncertain
<b>Impression Techniques</b>			
Custom trays for final impressions	60%	24%	16%
Stock trays for final impressions	49%	38%	13%
Triple trays	60%	32%	8%
Optical impressions	14%	54%	32%

	Essential	Important	Non-essential/ uncertain
<b>Occlusion</b>			
Full mouth rehabilitation	24%	60%	16%
Treatment of TMD patients	41%	54%	5%
Equilibration of natural dentition	49%	43%	8%

	Essential	Important	Non-essential/ uncertain
<b>Multiple Unit Restorations</b>			
Casting 3-unit FPD for clinical case	41%	35%	24%
Soldering FPD components for clinical case	22%	25%	53%
All-ceramic FPD	35%	43%	22%
Fiber reinforced resin composite FPD	3%	44%	53%

	Essential	Important	Non-essential/ uncertain
<b>Preventive/Conservative</b>			
Minimally invasive dentistry	47%	50%	3%
Remineralization therapies	40%	55%	5%
Use of bioactive materials	35%	57%	8%
Preventive resin restorations	70%	19%	11%
Pulp capping with non-CaOH materials	40%	55%	5%

	Essential	Important	Non-essential/ uncertain
<b>Removable Partial Dentures</b>			
RPDs with attachments to survey crowns	62%	38%	0%
RPDs with attachments to implants	67%	30%	3%
Non-traditional RPD designs	32%	41%	27%
Implant supported dentures	73%	27%	0%

	Essential	Important	Non-essential/ uncertain
<b>General</b>			
Evidence-based dental practice	73%	27%	0%
Reviewing the literature	62%	35%	3%
Developing critical thinking skills	86%	14%	0%
Specific training in ethics and professionalism	81%	19%	0%

Of note is the fact that Preventive/Conservative topics were uniformly rated as essential or important. The same can be said of the General topics, with developing critical thinking skills and specific training in ethics and professionalism scoring highest in the survey as being essential to the curriculum. Custom trays, stock trays and triple trays for final impressions were

(Continued on page 7)

## Message from the Director

*(Continued from page 1)*

Myths and Controversies.” It proved to be so popular that we are using the same general theme this year, but with different “myths and controversies” that you suggested in our recent survey. More details about that continuing education course are provided in this newsletter.

### **Northwest PRECEDENT**

Several years ago, the National Institute for Dental and Craniofacial Research (NIDCR), a group within the National Institutes of Health (NIH), sent out a request for proposals to develop regional dental practice-based research networks. OHSU and the University of Washington joined forces to submit a successful proposal, resulting in approximately \$25 million in funding to develop a five-state research network (Northwest PRECEDENT) and conduct 16 to 20 studies over seven years. Although none of this money goes to support PROH, NIDCR allowed that OHSU’s experience with PROH was a key component in the proposal’s acceptance. OHSU is proud to now be a part of two successful dental practice-based research networks.

### **Challenges**

All of you should be pleased with PROH’s successes to date. But, as with any worthwhile endeavor, there are trials that we face as we go forward. Without a doubt, securing funding for research projects continues to be our greatest challenge. Most of our individual research project funding has come from industrial sources, i.e., companies that want PROH practitioners to evaluate their products. We continue to look for a variety of funding sources, but it is a difficult time for such efforts. To use the vernacular of the oil fields (a popular topic these days), we drill a lot of dry holes before we hit a gusher.

Recruiting and retaining practitioners who will actively participate in PROH activities is another challenge for us. Part of the difficulty is that we just don’t have enough funded research projects to be able to use all of our practitioners in studies on a regular basis. Another part of the equation is that while we have approximately 125 practitioners who

have signed up for PROH, only about one-third participate in our activities.

To address these issues, one of the suggestions at last year’s meeting was to use email and electronic surveys to keep practitioners engaged and participating. We are trying to increase your interest by giving you the results of the studies before they become generally available to the practicing profession. Despite this, our response rate consistently falls below 50 percent.

We are also attempting to design studies that are as easy to implement as possible, and will have minimal impact on your practice. But, this is a challenge since we need to abide by all of the regulations relating to clinical research involving human subjects, as well as develop a protocol that all participants will follow exactly.

The PROH Steering Committee provides the executive oversight of PROH, as well as reviewing and approving any studies that we undertake. We have lost several members in the past year due to retirements or for personal reasons, and we have put out requests for interested individuals to join the Steering Committee, but we have yet had no response. The time commitment is kept to a minimum, and most business is handled via email. Typically, we only meet once per year. To keep PROH “practitioner-centric,” and focused on the interests and needs of the practicing community, we need dentists who believe in PROH’s efforts to further the cause of evidence-based dentistry. Please contact us if you are interested in helping serve.

We are appreciative of all of you who actively support PROH. Without your efforts, none of the above successes would have been possible. It’s a challenging financial environment, but with your help, we can continue to grow PROH and make it a force in the dental clinical research arena.



Thomas J. Hilton, D.M.D., M.S.  
PROH Director, [hiltont@ohsu.edu](mailto:hiltont@ohsu.edu)

## PROH Weighs in on SOD Curriculum

*(Continued from page 6)*

all considered equally high in importance for inclusion in the curriculum, but optical impressions have not reached the point of being an essential topic. Prefabricated metal and fiber posts were considered to be equally high in importance, and were actually considered more essential than cast post and cores.

Many respondents took full advantage of the opportunity to suggest additional topics. Of the 74 suggestions offered, 22 related to the business of dentistry, 21 discussed specific clinical techniques, 6 related to ethics, 4 related to patient communication and management, and 4 discussed clinical diagnoses leaving an array of 16 miscellaneous topics.

The time and input provided by the respondents is appreciated. These findings have been shared with the faculty of the Department of Restorative Dentistry, as well as those with responsibility for curriculum development.

## Contact PROH

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## Faculty Appointment

Are you interested in applying for a faculty appointment at the OHSU School of Dentistry? One of the benefits of participating in PROH is the opportunity for appointment as an adjunct assistant professor.

Once you have completed our online HIPAA and Responsible Conduct of Research courses, send the following documents to Cindy Barnes:

- Current Curriculum Vitae
- Copy of your diploma
- Copy of your dental license
- Two letters of recommendation (from colleagues or current faculty)

We will submit your application to the Dean's Office.

## Note

# PROH Conference registration materials inside!

See pages 3 & 4



OREGON  
HEALTH & SCIENCE  
UNIVERSITY

*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/](http://www.ohsu.edu/proh/)

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