

VIRGINIA BOARD OF DENTISTRY

AGENDAS

June 7 and 8, 2012

Department of Health Professions

Perimeter Center - 9960 Mayland Drive, 2nd Floor Conference Center - Henrico, Virginia 23233

PAGE

June 7, 2012

9:00 a.m. Formal Hearings

June 8, 2012

Board Business

9:00 a.m. Call to Order – Dr. Hall, President

Evacuation Announcement – Ms. Reen

Public Comment

Approval of Minutes - March 9, 2012 P1-P8

DHP Director's Report – Dr. Reynolds-Cane

Report on Sanction Reference Points – Mr. Kauder P9-P11
President, Visual Research, Inc.

Liaison/Committee Reports

- BHP – Dr. Levin
- AADB Mid-Year Meeting – Dr. Levin & Ms. Reen P12-P14
- SRTA – Dr. Hall
Ms. Pace
- Dental Laboratory Workgroup –Dr. Hall P15-P19

Legislation and Regulation – Ms. Yeatts

- Status Report on Regulatory Actions P20
- Ms. Burnette's Petition for Rule-making P21-P35

Board Discussion/Action

- Review of Public Comment Topics
- AADB Membership P36
- State Board Letters on ADA Test RFP & ADA Responses P36-P38
- Dental Lab Work Order Forms

PAGE

Report on Case Activity – Mr. Heaberlin

P52

Board Counsel Report – Mr. Casway

P53-P54

Executive Director’s Report/Business – Ms. Reen

- Proposed 2013 Calendar
- New Member Orientation

P55

11:45 a.m. School of Dentistry Update – Dr. Sarrett
Dean, VCU School of Dentistry

National Board Examinations – Dr. Byrne
Senior Associate Dean, Professor of Endodontics, VCU School of Dentistry

1:00 p.m. California’s Portfolio Examination – Mr. DeCuir & Dr. Casagrande
Executive Director & Board Member of the Dental Board of California
By Conference Call

P56-P159

Case Recommendations
Closed Session

- Discipline Case # 136273

CONFIDENTIAL DOCUMENTS

**VIRGINIA BOARD OF DENTISTRY
MINUTES
MARCH 9, 2012**

TIME AND PLACE: The meeting of the Board of Dentistry was called to order at 9:05 a.m. on March 9, 2012 in Board Room 4, Department of Health Professions, 9960 Mayland Drive, Suite 201, Henrico, Virginia.

PRESIDING: Robert B. Hall, Jr. D.D.S., President

BOARD MEMBERS PRESENT: Augustus A. Petticolas, Jr., D.D.S., Vice President
Herbert R. Boyd, III, D.D.S., Secretary-Treasurer
Martha C. Cutright, D.D.S.
Surya P. Dhakar, D.D.S.
Meera A. Gokli, D.D.S.
Myra Howard, Citizen Member
Jeffrey Levin, D.D.S.
Jacqueline G. Pace

BOARD MEMBERS ABSENT: Misty Mesimer, R.D.H.

STAFF PRESENT: Sandra K. Reen, Executive Director for the Board
Dianne L. Reynolds-Cane, M.D., DHP Director
Arne Owens, DHP Deputy Executive Director
Alan Heaberlin, Deputy Executive Director for the Board
Huong Vu, Operations Manager for the Board

ESTABLISHMENT OF A QUORUM: With nine members of the Board present, a quorum was established.

PUBLIC COMMENT: Dr. Hall advised the audience that the public comment period on the Petition for Rulemaking for Emergency Preparedness has ended but the Board would hear brief remarks.

Michael Link, DDS, stated that he is sad for the two families who have lost loved ones. He then recommended that no action be taken on the petition because the current regulations do adequately address emergency preparedness. He added that 92% of dentists in Virginia do not use any kind of sedation.

Nicole Cunha, Executive Director of the Raven Maria Blanco Foundation, Inc., said the Foundation helps parents

know the questions to ask before consenting to dental treatment. She stated that dental offices need to be prepared to maintain a patient at least 30 minutes until emergency medical services arrive because the average response time is 11 to 15 minutes. She noted that the comments from the public supported the petition and only dentists opposed it. She asked the Board to agree to the petition.

Mario Blanco, father of Raven Maria Blanco, stated that he misses his daughter very much. He commented that the public should know the right questions to ask the dentist prior to a dental procedure being done. He said the petition asks that dentists be more prepared to prevent tragic events from happening.

APPROVAL OF MINUTES:

Dr. Hall asked if the Board members had reviewed the December 1, 2011 minutes. Dr. Petticolas moved to accept the minutes. The motion was seconded and carried.

Dr. Hall asked if the Board members had reviewed the December 2, 2011 minutes. Ms. Pace moved to accept the minutes. The motion was seconded and carried.

DHP DIRECTOR'S REPORT:

Dr. Cane reported the following agency bills passed this year:

- HB 265 on Board of Health Professions (BHP) to meet at least annually, rather than quarterly.
- HB 347 on Prescription Monitoring Programs' disclosures.
- HB 885 on Nurses' licensure exemption.

She added that DHP monitored 70 additional bills including:

- HB 266 on Surgery definition and who may perform.
- HB 346 on Nurse Practitioners practice as part of patient care teams.
- HB 937 on Spouses of Military Service Members; expediting issuance of business licenses, etc.
- HB 938 on Military training, etc; regulatory boards to accept as equivalent to requirements for licensure.
- HB 1106 on Behavior and Assistant Behavior Analysts; licensure by Board of Medicine.

Dr. Cane added that Dr. Elizabeth Carter, BHP Executive Director, attended the Credential Summit meeting in Washington, DC at the end of February 2012 to discuss standards for accepting military training and experience as

satisfying licensure requirements. She added that BHP is expected to conduct the study of this option.

**OSCE – OBJECTIVE
STRUCTURED CLINICAL
EXAMINATION –
DR. BURNS:**

Dr. Burns, DDS, MEd, PhD, Oral Pathology Chair of the VCU School of Dentistry, thanked the Board for the opportunity to be here then gave a brief history on OSCE, explained variations in use and noted the strengths of this format over patient based exams. He gave a PowerPoint presentation on examples of the OSCE exams given at the School for a D3 multidisciplinary case and a D4 removable prosthodontic case. He added that these exams test the ability of the students to identify what is wrong. A handout of April 6, 2011 D3 OSCE exam was also distributed for review.

Dr. Burns went on to present the Canadian National Dental Examination. He noted that the comprehensive exam includes 300 multiple choice questions plus 100 tangible/timed stations that have 15 multiple choice responses to choose from with positive and negative credit assigned to each response. He added that the template for OSCE questions is standardized and available online for review by the public and students.

Dr. Burns concluded that an OSCE can be developed in a variety of different forms testing a variety of skills for a variety of different purposes including obtaining a license as a competent entry level dentist in Virginia. He recommended four (4) options the Board might pursue for establishing a non-patient based licensure examination.

Dr. Burns then responded to questions. Dr. Hall asked how school evaluates crown/cavity preps (motor skills). Dr. Burns replied that students are evaluated on their competencies in mannequins/human in a clinic. Dr. Burns added that in regard to motor skill evaluation, Canada accepts four (4) years ADA approved programs or Canadian approved curriculum.

Ms. Reen noted that Dr. Burns is the second of a series of presentations that the Exam Committee planned to explore alternatives to live patient clinical examinations. She added that the third presentation on the California portfolio model is planned for the June meeting. She added after that the Exam Committee will review the information and come up with the recommendations for the Board to consider.

LIAISON/COMMITTEE REPORTS:

Executive Committee. Dr. Hall reported that the Committee met on March 8, 2012 to hear a presentation on the budget development process from Mr. Giles, DHP Budget Manager, and to review the Bylaws. He noted that the Committee members were asked to identify any suggestions for the Bylaws at the June meeting.

Board of Health Professions (BHP). Dr. Levin reported that the BHP met on February 14, 2012 and reviewed proposed amendments to the Sanction Reference Points manual.

AADB. Dr. Levin reported that he and Ms. Reen will be attending AADB Mid-Year meeting in Chicago in April, 2012. They will report on the meeting in June.

LEGISLATION AND REGULATIONS:

Ms. Reen noted that she is filling in for Ms. Yeatts who was unable to be at the meeting today.

Report of the 2012 General Assembly. Ms. Reen reported on the following bills which directly affect the work of the Board or the practice of dentistry:

- HB 267 on registration of dental laboratories was continued to the 2013 session. Ms. Reen added that she, Dr. Hall and Ms. Yeatts met with the Virginia Dental Association (VDA) President, Dr. Roger Wood on December 16, 2012 and discussed the VDA resolution and the Board's concerns about proceeding with legislation. She added that a workgroup of VDA and Board representatives is planning to meet on April 20, 2012 to address dental labs.
- HB 344 on dental and dental hygiene faculty licenses merges current faculty and teacher provisions into one faculty license. She added that regulatory action will be needed to revise regulations to be consistent with the new statute.
- SB146 expands the authority for dental hygienists employed by the Virginia Department of Health to work under remote supervision throughout Virginia. The Board is required to incorporate the Department of Health's practice protocol into our regulations.

Status Report on Regulatory Actions. Ms. Reen noted that not much has changed since the last report.

- The Periodic Review proposed regulations to establish four chapters have not been submitted for administrative review.

- The regulations on Recovery of Disciplinary Costs are at Governor's Office for approval to publish as final regulations.
- The regulations for sedation and anesthesia permits are at the Governor's Office for approval.
- The rule for training in pulp capping for dental assistants II is at the Governor's Office for approval; and
- The amendment of the radiation certification regulation is also at the Governor's office for approval.

Raven Blanco Foundation Petition for Rulemaking. Dr. Petticolas stated that death in the dental chair is a tragic occurrence and he would like to express his condolences to those who have suffered loss. He added that the Board is sensitive to this matter that it has intentionally and deliberately dealt with the issues raised by the petitioner through the regulatory review process. He commented that the Regulatory-Legislative Committee, led by Dr. Boyd, expended much time and effort to review safety requirements for dental practitioners and the resulting proposed regulations are more than sufficient to advance the Board's goal of protection the public. He then moved to deny the petition. The motion was seconded and passed.

BOARD

DISCUSSION/ACTION:

Review of Public Comment Topics. Dr. Hall noted that the comments received have already been addressed.

Board/VDA Discussion of Registration of Dental Labs. Dr. Hall noted that the matter was covered earlier by Ms. Reen in the report on 2012 legislation.

Draft Letter to North Carolina. Ms. Reen said the draft letter is presented for Board consideration and action. She noted that she has talked to her counterpart in NC and he is receptive to a friendly letter. Dr. Gokli moved to delete "***but which is not administered here***" in the first paragraph and to approve the letter as amended. The motion was seconded and passed.

ADEX. Dr. Hall noted that Virginia is now member of ADEX and that the membership agreement, highlights, and the report on the annual meeting were provided as information only.

CODA Letter to Centura College. Dr. Hall noted that this was provided as information only.

AADB Meeting. Dr. Boyd stated that he is happy to hear that Dr. Levin and Ms. Reen will attend the mid-year meeting and no further discussion is needed at this time.

**REPORT ON CASE
ACTIVITY:**

Mr. Heaberlin reported that in the second quarter of FY2012 the Board received a total of 68 patient care cases and closed a total of 85 for a 125% clearance rate. He added that:

- the current caseload older than 250 days is 7%,
- 92% of all cases were closed within 250 business days,
- 210 cases are open, and
- 68 cases are in probable cause with 26 at Board member review.

He said that staff will work with Special Conference Committee B on March 16 to revise the Probable Cause Review Form and plans to make recommendations at the next Board meeting. He asked Board members to forward him any comments or suggestions for improving the form.

Mr. Heaberlin noted that case management staff is now reviewing cases prior to sending them out for Board member review. Ms. Reen added that the preliminary staff work should provide upfront information about the case, making it easier for Board members to review.

**EXECUTIVE
DIRECTOR'S
REPORT/BUSINESS:**

Ms. Reen reported the following:

- The RFP for the Dental Law exam was issued and no agency submitted a proposal. She added the current provider stated that the cost of administering the exam is not covered by the number of exams taken. She noted that when the exam was adopted, the Board decided not to require passage but to offer it as a CE opportunity, thinking that licensees would voluntarily take the exam. Since that has not happened, Ms. Reen asked the Board for guidance of what to do. Dr. Gokli suggested mandating licensees to take it every five years. Dr. Levin suggested asking schools to administer the exam. Ms. Pace suggested that the Exam Committee address this and bring recommendations to the Board. Dr. Hall agreed and assigned the matter to the Exam Committee.
- The Dental Inspection Form has been revised by Board and Enforcement staff and is presented for

discussion and adoption. Dr. Petticolas moved to accept the amended form. The motion was seconded and passed.

- The prescribed Dental Laboratory Work Order Forms have created confusion for dental labs. She said she is explaining that the forms are required by §54.-12719 of the Code and were developed to be a part of the patient record. She adds that these forms can be integrated with their's so long as the required minimum content is addressed. After discussion, no action was taken.
- An amendment is proposed to GD 60-7 Delegation to Dental Assistants (DAs) for Board's discussion and action. She noted that "**Take bite and occusal registrations**" is proposed to be added to Restorative Services. Dr. Levin opposed this because it is an irreversible and critical procedure. Ms. Reen asked if it was included in one of the non-delegable duties in 18VAC60-20-190. Consensus was that it is not. Dr. Petticolas moved to adopt the amended GD. The motion was seconded and passed by voice vote with one member opposed.
- the first Dental Assistant II has been registered.

CASE

RECOMMENDATIONS: Case# 136275, Case# 140969, Case# 141284, Case# 142432 and Case# 142769

Closed Meeting:

Dr. Petticolas moved that the Board convene a closed meeting pursuant to Section 2.2-3711(A)(27) of the *Code of Virginia* for the purpose of deliberation to reach decisions in the matters of case # 136275, # 140969, # 141284, # 142432, and # 142769. Additionally, Dr. Petticolas moved Board staff, Ms. Reen and Ms. Vu attend the closed meeting because their presence in the closed meeting is deemed necessary, and will aid the Board in its deliberations.

Reconvene:

Dr. Petticolas moved that the Board certify that it heard, discussed or considered only public business matters lawfully exempted from open meeting requirements under the Virginia Freedom of Information Act and only such public business matters as were identified in the motion by which the closed meeting was convened. The motion was seconded and passed.

Dr. Petticolas moved to accept the Consent Order for Case # 136275. The motion was seconded and passed.

Dr. Boyd moved to accept the recommended Order of the Credentials Committee for Case # 140969. The motion was seconded and passed.

Dr. Boyd moved to accept the recommended Order of the Credentials Committee for Case # 141284. The motion was seconded and passed.

Dr. Levin moved to accept the Consent Order for Case # 142432. The motion was seconded and passed.

Dr. Petticolas moved to accept the Consent Order for Case # 142769. The motion was seconded and passed.

ADJOURNMENT:

With all business concluded, the meeting was adjourned at 12:00 p.m.

Robert B. Hall, Jr., D.D.S., President

Sandra K. Reen, Executive Director

Date

Date

Assessing the Effectiveness of Sanctioning Reference Points

Board of Dentistry – BHP Status Update

Draft – Working Papers

May 2012

Prepared by:

VisualResearch, Inc.
P.O. Box 1025
Midlothian, VA 23113
804.794.3144

Prepared for:

Virginia Department of Health Professions
Virginia Board of Health Professions
Perimeter Center
9960 Mayland Drive, Suite 300
Richmond, VA 23233-4400

The Virginia Board of Health Professions began its Sanctions Reference Points (SRP) research program in 2001 which has subsequently provided SRPs tailored for each of the boards within the Department of Health Professions. In May of 2010, the Board of Health Professions began a formal and ongoing evaluation of SRPs to determine whether the program has met the objectives set forth in 2001. In addition to measuring effectiveness, the study is designed to identify potential improvements to the SRP system and recommend any additional changes related to future SRP operations.

The Board of Dentistry was one of the earliest boards to participate in the study. The Board adopted and began using Sanctioning Reference Points (SRP) worksheets in July 2005. Since that time, approximately 130 Dentistry SRP worksheets have been completed, which provide a sufficient basis to begin analysis. This study is designed to evaluate the performance of the worksheets, user satisfaction, and to make any necessary changes that the board or staff, indicate are needed.

In order to facilitate this evaluation and gather meaningful information on worksheet use and performance, researchers have conducted detailed interviews with Board members and the Board's Deputy Director. The interviewees were asked several open-ended questions that focused on their experiences using the SRPs, such as:

- Are the case types that come before the Board still adequately represented by the SRP system?
- Do you feel the sanctioning recommendations made by the SRP worksheets reflect the Board's sanctioning goals for various offenses (i.e. re-educate, monitor)?
- Are there any specific changes that can be made to the worksheets in terms of the factors, their scoring, or the recommended sanctions?
- Do you feel SRPs have had an impact on case processing time? Disposition method?

Based on data gathered at interviews, the following recommendations to the Board of Dentistry's SRP manual should be considered.

1. Currently, the Board's definition for "Patient Injury" states:
Physical injury includes any injury requiring medical care ranging from first aid treatment to hospitalization. Patient death would also be included here.

Recommended modification of "Patient Injury" to:
Physical injury includes any injury which impairs the patient's ability to perform normal daily functions. Patient death would also be included here.

2. Recently, the Board of Nursing's (BON) SRP worksheets were automated in Microsoft Excel.

It is recommended that Dentistry's SRP worksheets also be automated in a similar fashion to those produced for the BON.

3. Each quarter a report is produced that details each Board's cumulative rate of agreement with the SRP sanctioning recommendations. Interviewees largely report being unaware of Dentistry's present agreement rate.

It is recommend that the reporting of quarterly SRP agreement rates to Board staff be made routine, so Board members are kept up-to-date with current SRP status.

Some interviewees reported that the SRPs help to reduce time spent in closed session by focusing the discussion around factors that directly impact sanctioning. One member stated that the SRPs helped to speed acceptance rates for violations. All interviewees agree that SRP's are a useful tool when sanctioning respondents and are particularly helpful for new Board members.

Summary

At this time the board felt that any revising of worksheets factors or scoring was not needed. This is an important observation, since some boards have had varying degrees of change in both sanctioning practice and culture; this has caused their worksheets to undergo more significant revisions. As of now, Dentistry did not feel this was the case, and indicated the worksheet factors, their scoring, and the recommended sanctions, were still up-to-date and relevant. As far as the recommendations made above, VisualResearch, Inc. is available to make formal recommendations at a time convenient to the Board of Dentistry.

D-PREP Background Information

The American Association of Dental Boards (AADB) has partnered with the University of Maryland School of Dentistry, Marquette University School of Dentistry and Louisiana State University School of Dentistry to offer a Dentist Professional Review and Evaluation Program (D-PREP), the intent of which is to detect and evaluate deficiencies in dental practitioners referred to the program by their boards. In the ongoing effort to protect the public, the program has been designed to identify practitioners who either need remediation or who should not continue in the practice of dentistry. Dental practitioners referred to this program by their boards will be assessed and may have the opportunity to participate in an enhancement program that will address these deficiencies and enable them to return to dental practice.

Incorporated in 1883, the AADB is the parent organization representing state dental boards whose responsibility is to ensure the public's safety by monitoring practitioners who do not meet acceptable standards of dental practice.

The universities involved are among the preeminent dental schools in the country with state-of-the-art equipment and the highest caliber of dental professionals.

After completion of the disciplinary process, state dental boards are sometimes faced with a decision on whether or not a practitioner can return to practice and, if so, is there a remediation protocol to address the clinical deficiencies which resulted in the board actions. Current assessments do not adequately address the evaluation of a dentist's general clinical knowledge and judgment and its impact on clinical treatment. In the case where a respondent's deficiencies are so significant as to restrict the ability to practice or provide a complete discipline of service, D-PREP will provide dental boards with a standardized and comprehensive assessment and remediation curriculum, if appropriate.

Critical care can be compromised by cognitive issues, deficiency in the knowledge of appropriate clinical techniques and milestones, hand skills, general clinical knowledge, ethical issues and appropriate judgment in diagnosis and treatment planning. During a disciplinary and hearing process, state dental boards most often focus on the treatment provided and are usually ill-equipped to determine the reasons for poor clinical care. This program will address the question, "Is remediation possible?" If it is determined that remediation is appropriate, the applicant will complete the remediation curriculum at a state board approved location.

Currently, state dental boards often prescribe remediation without a background analysis or rationale. Most assessment services offer a hand skills performance examination, usually on a simulated platform such as a mannequin. This process provides little information not already determined by the hearing process when examining the actual clinical treatment on patients. A comprehensive assessment of clinical knowledge and judgment and its application to treatment has not been available until now. D-PREP evaluators will respond in a standardized, in-person four to five day process and will provide dental boards with assessment and remediation recommendations designed to address comprehensively deficiencies contributing to poor clinical care.

[Program Details](#)

[Application](#)

(c) 2012 - American Association of Dental Boards - 211 E Chicago Ave, Ste 760 - Chicago, IL 60611
Phone: (800) 621-8099 ext 2894 - E-mail: ASP@dentalboards.org

ERA Background Information

The American Association of Dental Boards (AADB) has launched the Assessment Services Program (ASP), a comprehensive program of review services designed to assist dental boards throughout the discipline process. One of the major components of the program is the Expert Review Assessment (ERA). Please note that this program is for dental boards only.

The Expert Review Assessment program is a service provided to dental boards in need of an independent expert witness in disciplinary case review. The AADB will refer the state dental board to a specially trained expert assessor who will review the practitioner's patient care and treatment and/or the practitioner's conduct and offer an opinion regarding whether or not that care, treatment and conduct met applicable standards.

Those boards interested in participating in ERA will fill out a request form accompanied by a nonrefundable \$1,500 fee sent directly to the American Association of Dental Boards. The form will be reviewed and documents needed for the assessment will be specified. It will be the state dental board's responsibility to supply the AADB with all necessary documents which will be forwarded to the expert assessor.

[Submit Request](#)

(c) 2012 - American Association of Dental Boards - 211 E Chicago Ave, Ste 760 - Chicago, IL 60611
Phone: (800) 621-8099 ext 2894 - E-mail: ASP@dentalboards.org

PCSS-O Training

Prescribers' Clinical Support System for Opioid Therapies

Training, Education, and Peer Support for Opioid Prescribers in all Health Professions

New Approaches to Training and Education on Effective and Safe Use of Opioid Medications in Patients with Pain and Those with Opiate Addiction

1. Web-based learning:

Visit our website www.pcss-o.org for training information, didactic materials and peer support.

2. Webinars offered by major stakeholder organizations:

American Dental Association, American Medical Association, American Osteopathic Academy of Addiction Medicine, American Osteopaths' Association, American Society for Pain Management Nursing, and International Nurses Society on Addictions.

Lecture series at national annual meetings of stakeholder groups.

3. Peer support: Networks to answer questions about safe opioid prescribing, online forums with experts, and through questions on Twitter and in the field of online prescribing. All of these are available on our website.

Online application with 1200 hours.

4. Virtual patients to give you new capabilities to practice working with opioid use in your clinical environment.

Call or write for information!

PCSS-O is a non-profit organization that provides training, education, and peer support for opioid prescribers in all health professions. We are currently seeking individuals who are interested in providing services to our members. For more information, please contact us at www.pcss-o.org or call 401-272-4022.



400 Massachusetts Avenue, Suite 307 - 2nd Floor, East Providence, RI 02914
Phone (401) 272-2775 (PCSSO) Fax (401) 272-4022
www.pcss-o.org info@pcss-o.org

Approved

**VIRGINIA BOARD OF DENTISTRY
DENTAL LABORATORY WORK GROUP
MINUTES
April 20, 2012**

TIME AND PLACE: The meeting of the Dental Laboratory Work Group of the Board of Dentistry was called to order at 11:20 a.m. on April 20, 2012 in Training Room 1, Department of Health Professions, 9960 Mayland Drive, Suite 201, Richmond, Virginia.

PRESIDING: Robert B. Hall, Jr., D.D.S, President

MEMBERS PRESENT: Herbert R. Boyd, III, D.D.S.
Dag Zapatero, D.D.S.
Scott Miller, D.D.S., by conference call

MEMBER ABSENT: David C. Sarrett, D.D.S.

STAFF PRESENT: Sandra K. Reen, Executive Director
Elaine J. Yeatts, DHP Policy Analyst
Huong Vu, Operations Manager

**REGISTRATION OF
DENTAL
LABORATORIES :**

Dr. Hall welcomed the members and asked Ms. Reen to begin by explaining the information she provided on the states identified as regulating labs. She stated that understanding what other states were doing may be helpful so she had collected statutes and regulations and some disciplinary orders. She noted that:

- TX and OK dental boards regulate dental labs;
- Departments of health regulate dental labs in FL and PA;
- TX, SC and KY register dental technicians and require out of state labs to employ registered technicians; and
- TX, SC and FL have criminal penalties for dentists who are doing business with unregistered labs and technicians.

Dr. Hall then asked what the work group wants to accomplish at this meeting. Dr. Miller stated that the Virginia Dental Association (VDA) wants labs to be required to disclose point of origin and material content. He added that dentists have no authority to require disclosure so requiring dental labs to register with the Board is needed. Dr. Zapatero agreed and added that the Board's current work order forms have created problems and the Board does not have any authority to address non-compliance. Dr. Miller said that the Board and the VDA need to improve communications with dentists because there is a lot of confusion about what dentists are required to do.

Extensive discussion followed about the business relationship between dentists and labs and the option of not doing business with labs that are unwilling to provide information. It was noted that the impact of one dentist switching labs would be minimal but the Board would be able to prevent a lab from doing business in Virginia. Ms. Yeatts noted that the Board only has authority in Virginia and would not be able to travel out-of-state or out of country to investigate complaints. Dr. Zapatero responded that the Board could do paper investigations and have material assayed. Dr. Boyd addressed patient interests and recourse with general agreement that patients are most likely to file complaints against the dentist and it would be up to the dentist to file a complaint in order for the Board to conduct an investigation. He added that the dentist can already direct his complaint to the lab and decide whether to keep doing business with a lab he does not trust.

Dr. Hall remarked that there appears to be agreement that dental labs need to disclose point of origin and materials used. He asked if the Board's current work order forms address this and meet the meaning of a work order as defined in VDA's proposed legislation, HB 267. Dr. Miller responded yes then added that the current forms require dentists and labs to spend additional time on where work will be performed and what materials to use. Ms. Reen asked for clarification of the VDA's objections to the requirements for advance notice of subcontracting and discussion followed about preventing defective material from being delivered to the patient and the responsibility that dentists have for protecting patients. Referring to the VDA's proposed bill, Ms. Reen asked what the difference is from the current work order forms with those required by the proposed language. Dr. Miller said that there is none and added that VDA members don't want to be the police of the dental labs.

Dr. Hall referred the work group to the Board's concerns about VDA's current proposed bill and said the Board's interest is to understand the problem being experienced in Virginia so a study would be helpful. Ms. Reen noted that the current bill is impossible to implement because the requirement for registration would be in effect before regulations are in place so no one could legally operate a lab. She added there are also the questions of:

- which state agency in Virginia should be responsible for registering labs,
- is it the VDA's intent to require registration by out of state labs,
- is requiring registration of dental technicians a better option, and
- are suppliers of components to be included in registration?

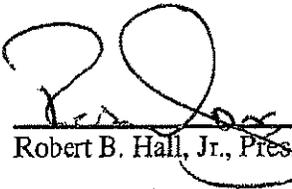
Dr. Zapatero said that there is no need for a study to be done and asked that the Board address what the VDA members voted for virtually unanimously. Dr. Hall said that he has talked to five or six dentists in his area who are members of VDA and who have stated that they do not understand the need for the bill.

Dr. Miller asked what the VDA can do to move this process ahead. Dr. Zapatero suggested that VDA and the Board can work on the language of the bill. Dr. Boyd suggested that the Board might want to consider regulating CDTs as it rewriting all the chapters. Ms. Reen noted that KY moved from registering dental labs to registering dental technicians so it might be helpful to know why. She added that the Board can modify the work order forms quickly to address concerns.

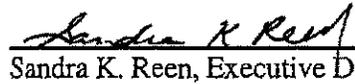
Dr. Miller agreed that the work group should meet again to discuss modification of the Board's work order forms and address editing the VDA's bill. All agreed. Dr. Miller said he would let Ms. Reen know if he is available either May 18 or June 1 so the next meeting could be scheduled.

ADJOURNMENT:

Dr. Hall adjourned the meeting at 1:05 p.m.



Robert B. Hall, Jr., President



Sandra K. Reen, Executive Director

18 May 12
Date

May 18, 2012
Date

Draft - Unapproved

**VIRGINIA BOARD OF DENTISTRY
DENTAL LABORATORY WORK GROUP
MINUTES
May 18, 2012**

TIME AND PLACE: The meeting of the Dental Laboratory Work Group of the Board of Dentistry was called to order at 11:03 a.m. on May 18, 2012 in Training Room 1, Department of Health Professions, 9960 Mayland Drive, Suite 201, Richmond, Virginia.

PRESIDING: Robert B. Hall, Jr., D.D.S., President

MEMBERS PRESENT: Herbert R. Boyd, III, D.D.S.
Dag Zapatero, D.D.S.
Scott Miller, D.D.S.
David C. Sarrett, D.D.S.

STAFF PRESENT: Sandra K. Reen, Executive Director
Elaine J. Yeatts, DHP Policy Analyst
Huong Vu, Operations Manager

**APPROVAL OF
MINUTES:**

Dr. Hall asked if members have any questions or comments about the minutes. None were noted. The minutes were approved.

**MODIFICATION OF
THE BOARD'S WORK
ORDER FORMS:**

Dr. Hall stated that he would like to start with discussion on modifying the Board's work order forms to be more user friendly. Dr. Zapatero suggested that the Board get rid of the forms since the Board has no authority to require laboratories to complete them. Ms. Yeatts noted that the current statute requires the Board to issue these forms which include required minimum information. Discussion of the Board's authority to enforce the use of the forms followed. Dr. Sarrett said that the current law should be modified to address current technology. He added that the Board needs to provide direction for what dentists and dental labs are required to document then post the directions with the work order forms as templates that meet the requirements of the law. Ms. Yeatts added that clarification that different ways to store records could also be addressed. There was consensus to create guidance on the requirements for work orders.

After much discussion, the work group decided to make the following change to the work order forms:

- Add "TEMPLATE" after "APPROVED" to the title of the forms
- Rewrite the introduction to make it clearer that different forms and formats are acceptable.
- Make email addresses optional
- Add location of fabrication
- Delete dentist contact information from the subcontractor work order form

- Delete items 1, 2, 4, and 5 in Instructions to Lab section on both forms and on the Dental Laboratory Work Order Form replace these with checkboxes a dentist might use to authorize subcontracting
- Move item 3 of "Instructions to Lab" to the type and quality of materials section

Dr. Hall asked Ms. Reen to develop the directions and revise the forms then forward them for review by the work group prior to the June Board business meeting. Ms. Reen agreed.

EDITING OF VDA'S LEGISLATION:

Ms. Reen referred the work group to the green pages that lists the implementation problems with the proposed legislation. She added that the Board is here to provide technical assistance if the VDA decides to advance the proposed bill. She added that the language in the legislation and the explanation provided in the VDA/BOD Point of Origin and Material Disclosure Workgroup Discussion paper are inconsistent so she and Ms. Yeatts were unable to draft revisions for discussion. Ms. Reen suggested that the legislation be rewritten.

Dr. Sarrett suggested that, instead of advancing the proposed bill, the VDA could consider developing a registry or clearinghouse so dental labs could voluntarily apply to be listed as doing business in the Commonwealth. Ms. Yeatts indicated that there are models for this type of service.

VDA's goals for registration were discussed with Dr. Zapatero explaining that subcontractors should not be required to register and Dr. Boyd recommending that the VDA scrap the idea of registration for only point of origin and materials disclosure. Dr. Hall acknowledged that the VDA and the Board continue to disagree on the need to register labs. Ms. Reen added that the Board is still interested in studying the need for regulation and asked the VDA to consider agreeing to a joint study. Dr. Zapatero said the VDA had studied this and another study was not needed. Ms. Reen suggested that, if the VDA decides to move forward with legislation, that it review its goals and discussion points to draft a new bill. Dr. Miller said the VDA will discuss how to proceed with its interests and will follow-up with the Board.

ADJOURNMENT:

Dr. Hall asked if there were any other matters to discuss. When none were identified, Dr. Hall adjourned the meeting at 1:19 p.m.

Robert B. Hall, Jr., President

Sandra K. Reen, Executive Director

Date

Date

**Agenda Item: Regulatory Actions - Chart of Regulatory Actions
(As of May 22, 2012)**

Board of Dentistry	
Chapter	Action / Stage Information
Regulations Governing Dental Practice [18 VAC 60 - 20]	<u>Action:</u> Sedation and anesthesia permits for dentists <u>Stage:</u> Emergency/NOIRA - At Governor's Office for 160 days; was required to be effective 12/28/11
Regulations Governing Dental Practice [18 VAC 60 - 20]	<u>Action:</u> Periodic review; reorganizing chapter 20 into four new chapters: 15, 21, 25 and 30 <u>Stage:</u> Proposed - At Secretary's Office for 1 day
Regulations Governing Dental Practice [18 VAC 60 - 20]	<u>Action:</u> Training in pulp capping for dental assistants II <u>Stage:</u> Fast-Track - At Governor's Office for 280 days
Regulations Governing Dental Practice [18 VAC 60 - 20]	<u>Action:</u> Radiation certification <u>Stage:</u> Fast-Track - At Governor's Office for 217 days
Regulations Governing Dental Practice [18 VAC 60 - 20]	<u>Action:</u> Recovery of disciplinary costs <u>Stage:</u> Final - At Governor's Office for 278 days

Agenda Item: Response to Petition for Rulemaking

Included in your agenda package are:

A copy of the petition received from Fillini Denice Burnette

A copy of the initial Agency Notice published in the Register of Regulations

Copies of all comments on the petition

Staff Note:

There was a comment period on the petition from April 23rd to May 18th.
Comments were received by email or through the Virginia Regulatory Townhall.

Board action:

The Board may accept the petitioner's request for amendments to regulations and initiate rulemaking by adoption of a Notice of Intended Regulatory Action

OR

The Board may reject the petitioner's request for amendments. If the petition is rejected, the Board must state its reasons for denying the petition.



COMMONWEALTH OF VIRGINIA Board of Dentistry

9960 Mayland Drive, Suite 300
Richmond, Virginia 23233-1463

(804) 367-4538 (Tel)
(804) 527-4428 (Fax)

Petition for Rule-making

The Code of Virginia (§ 2.2-4007) and the Public Participation Guidelines of this board require a person who wishes to petition the board to develop a new regulation or amend an existing regulation to provide certain information. Within 14 days of receiving a valid petition, the board will notify the petitioner and send a notice to the Register of Regulations identifying the petitioner, the nature of the request and the plan for responding to the petition. Following publication of the petition in the Register, a 21-day comment period will begin to allow written comment on the petition. Within 90 days after the comment period, the board will issue a written decision on the petition.

Please provide the information requested below. (Print or Type)

Petitioner's full name (Last, First, Middle Initial, Suffix)
Burnette Fillini Denice, EFDA, CPA, DAI

Street Address
84 Wilshire Lane

City
Woodlawn

Email Address (optional)
dentaldb73@yahoo.com

Area Code and Telephone Number
276-728-5014

State
Va.

Zip Code
24381

Fax (optional)

Respond to the following questions:

1. What regulation are you petitioning the board to amend? Please state the title of the regulation and the section/sections you want the board to consider amending. 18 VAC 60-20-190, #5 operation of highspeed rotary instruments in the mouth

2. Please summarize the substance of the change you are requesting and state the rationale or purpose for the new or amended rule. That DAI can use highspeed rotary instruments. A highspeed is needed when doing restoration; you need to adj the filling remove flash, contour the filling, check occlusion of the filling a highspeed is needed to do all above.

3. State the legal authority of the board to take the action requested. In general, the legal authority for the adoption of regulations by the board is found in § 54.1-2400 of the Code of Virginia. If there is other legal authority for promulgation of a regulation, please provide that Code reference. 18 VAC 60-20-190 #5 operation of highspeed rotary instrument in the mouth, except a DAI who has meet the first 3 requirements in 18 VAC 60-230 Letter C - 1, 2, 3.

Signature: Thank you!
Denice Burnette EFDA, CPA DAI Date: April 2, 2012

PETITIONS FOR RULEMAKING

TITLE 18. PROFESSIONAL AND OCCUPATIONAL LICENSING

BOARD OF DENTISTRY

Initial Agency Notice

Title of Regulation: 18VAC60-20. Regulations Governing Dental Practice.

Statutory Authority: § 54.1-2400 of the Code of Virginia.

Name of Petitioner: Denice Burnette.

Nature of Petitioner's Request: Amend 18VAC60-20-190 to permit dental assistants II to operate a high speed rotary instrument in the mouth.

Agency's Plan for Disposition of Request: The petition will be posted and sent for public comment ending May 18, 2012. The Board of Dentistry will consider the petition and any comment at its meeting scheduled for June 8, 2012.

Public Comment Deadline: May 18, 2012.

Agency Contact: Elaine J. Yeatts, Agency Regulatory Coordinator, Department of Health Professions, 9960 Mayland Drive, Suite 300, Richmond, VA 23233, telephone (804) 367-4688, or email elaine.yeatts@dhp.virginia.gov.

VA.R. Doc. No. R12-20; Filed April 3, 2012, 9:20 a.m.

Comment on Petition from Townhall

4/23/12 10:47 am

Commenter: Gus C Vlahos *

operating high speed handpiece in mouth by a DAI

If a DAI is allowed to do this there must be a list of duties they can use the highspeed for. But to just make a blank statement that opens up for interpretation as to what they can do with it is a bad idea. I don't believe this is a good idea at the present time as the DAI is still new and there has been no feed back on how they are working out.

4/23/12 8:04 pm

Commenter: Richard R. Zechini *

Dental Assistants operating high speed handpiece

A blanket approval of such legislation may prove to be dangerous for patients and without proper training a true disadvantage to the dental practioner, as well as, the dental profession..

4/23/12 10:42 pm

Commenter: Christie, RDH *

high speed DAI

this is a BAD idea with vague guidelines!!! as graduate of a 4 year RDH program I am not licensed to operate a high speed hand piece in the mouth. how does the limited amount of training that the DAI will get make this a safe idea?

4/23/12 11:29 pm

Commenter: Kred *

operating high speed handpiece

In my opnonion this must be more precise. Making a blank statement opens up for interpretation

Kred

4/24/12 7:19 am

Commenter: Fred *

Public safety

Public safety is an issue here. The dental assistant should not be allowed to use a high speed instrument in the mouth for any purpose. This is not within the realm of their duties and this allowance would put patients at risk of severe injury. Unlike dentists, they do not have the education or training. Obviously, this petition has no merit.

4/24/12 7:26 am

Commenter: Cari, RDH *

Is this a joke?

Dental assistants using a high speed instrument? Are you kidding? For what possible purpose? Prepping a crown? Removing hard tooth structure? Performing endodontic therapy? Dentists, you are going to put the public at great risk. This is a slam dunk NO!!!

4/24/12 11:12 am

Commenter: Mary, BSDH RDH *

Rediculous

This is rediculous. Hygienist after years of education, taking national and clinical boards, are not licensed to use a high speed rotary instrument. Dental assistants do not have the educational level to allow them to use something that performs irreversible treatment (tooth sturcture removal). And lets not forget the dangers of possible patient injury. Is this a means tof increasing office profits??

4/24/12 11:15 am

Commenter: Fred Certosimo *

DA II's to be operating a high speed handpiece

I can see of no possible reason for DA II's to be operating a high speed handpiece. It is a safety hazard to our patients and an affront to our profession.

4/24/12 1:31 pm

Commenter: Rod M. Rogge, DDS *

Operation of HS handpiece by non-dentists

Use of the highspeed handpiece correctly, without causing harm to a patient, takes years of instruction and knowledge. Removal of dental caries may look technically easy, but done correctly, is as difficult as removing a cerebral neoplasm. Extensive knowledge of anatomy, physiology, biochemistry, microbiology, pathology and more is required. Hand-eye coordination and psychomotor skill is very challenging, but can be learned in a few years of pre-clinical and clinical instruction. Knowing how to use a handpiece, and where and when to use it correctly, takes years of education and clinical monitoring. Even after 4 years of dental school, most graduates are barely able to use a handpiece successfully and without causing harm. Non-dentists have been trying to classify dentistry as a mechanical trade for years, and will continue to do so. Dentistry became a reliable and worthwhile profession almost 200 years ago, when science, high-level education and clinical mentoring replaced technicians and tradesmen. This is another attempt to reverse the advances made by dentistry and medicine for purely financial reasons. We owe the public the right to have properly educated and trained personnel providing medical and dental care. If DA2's want to use a high speed handpiece, there are plenty of dental schools waiting for their applications.

4/24/12 9:46 pm

Commenter: Amanda, RDH *

Against DAII using high speed instruments

Only properly trained and qualified dental professionals should be allowed to operate high speed instruments. I am a Registered Dental Hygienist after 4 years of education as well as passing a national and clinical exam yet I am still not allowed to operate a high speed instrument in a patient's mouth so a DAII is certainly not qualified! Dental assistants do not obtain adequate training to allow them to use something that performs irreversible changes to tooth anatomy, and allowing them to do so will put patients at unnecessary risk to great harm. A definite NO!

4/24/12 10:17 pm

Commenter: Ralph L Howell, Jr., DDS *

High speed rotary instruments

I feel that the use of high speed rotary instruments by a DAI is beyond the scope of educational and training requirements in place for a DAI and will not safely expand the capability of dental practice within the Commonwealth.

4/25/12 12:04 am

Commenter: Carson E Wiedeman, DDS, retired *

comment

Over the past 35 years of practice in Virginia, I have had 2 dental assistants that I would have permitted to use a high speed handpiece to replace/adjust a restoration in my mouth. Back in the day, there were no DA II's, just very experienced and well trained DA's, a couple of whom worked for me, I would be very comfortable letting them do what 1st year dental students do under supervision.

General dentistry, along with family practice medicine, is not rocket science. As Dr. Elmer Bear, head of oral surgery at MCV used to say, "I could train a monkey to pull teeth. I've been doing it for over 30 years", obviously referring to undergraduate dental students.

Dentists are way too uptight about their training and credentials. Let's face it: dental school is no more than a trade school, as is medicine. Well trained auxiliaries can be just as competent in performing the manual skills of dentistry, with the caveat of the supervision and diagnostic skills of an experienced, licensed dentist.

4/25/12 9:10 am

Commenter: Dr. Bob Howell *

high speed handpiece use, a safety concern.

High speed handpieces should only be used by trained operators who by their frequent use are able to properly control the instrument, and what about the insurance ramifications, who shall be paying for the increased premiums.

4/25/12 12:24 pm

Commenter: Ron Downey, DDS *

DAI use of high speed handpiece

This is not a skill they have now nor will it become a safe skill for them. Let's leave it off.

4/25/12 6:56 pm

Commenter: Jon *

ortho bracket removal, high spots

I could see it for *removal of bonding material* using a gold shank fluted bur *after orthodontic brackets have been removed*, and *correcting high spots* on restorations. What other purposes would this change serve? Other than for these purposes, dental assistants do not have the skill or training to use a highspeed.

4/25/12 9:40 pm

Commenter: Heather, BSDH, RDH *

DA2

I would like to have research done on the DA2 position and how it actually is helping in our state. I understand this is in attempt to help with access to care but I would like to know if having the DA2 helps with access to care before adding more responsibilities to the position. I believe a DDS/DMD should be the only ones operating high speed hand pieces.

4/27/12 9:46 pm

Commenter: Patricia, RDH *

Strongly opposed to DA II high speed operation

I am a RDH, and I am strongly opposed to the idea of a DA II operating a high speed handpiece. Not only do I feel this is unsafe for the poor patients who would be subjected to these untrained individuals "experimenting" on them but the mere fact that anyone would consider it is absurd. Why not let out children do the same? They are untrained, also.

4/29/12 7:43 pm

Commenter: F. Denice Burnette EFDA, CDA, DAII *

As an Expanded Function Dental Assistant in TWO STATES for OVER 16yrs.

As a EFDA/DAII we are licensed to placed fillings start to finish, in order to do that a high speed hand piece is needed, we have to adj the occclusion, contour the filling and remove flash, this would be like asking the Dental Hygienist to clean someone teeth start to finish and not letting them use a CAVITRON. As of how I am the only DAII in the state of Virginia, to become a EFDA/DAII TAKES YEARS of training and schooling, it's not a little 16weeks class. This is something you are taught/trained in your Schooling. I think the people to sit and write these comments need to learn more about DAII and all that we do as a DAII/EFDA, when YOU have NEVER worked with a DAII in your office, for I know this because I AM THE ONLY DAII IN THE WHOLE STATE OF VIRGINIA AND HAVE WORKED AS ONE FOR OVER 16 YEARS!

Thank you,

F. Denice Burnette EFDA, CDA, DAII

4/29/12 8:16 pm

Commenter: Lesa Crane, RDH, CDA, MHA *

DAII

I am opposed to this proposed regulation allowing a DAII to use a high-speed handpiece in the mouth. A DAII currently does not have the experience and education necessary to put forth this type of proposal. I will be detrimental to the oral health of Virginians.

4/29/12 9:36 pm

Commenter: Lori Reffett RD, RDH, CDE *

Why do this?

I am saddened to think that dentists would relegate the use of high speed handpieces to dental assistants whether a certified dental assistant or not. Do the doctors realize they will be held liable for any injuries to the patient or damage to tooth structure? Do the assistants realize they will need to carry their own liability insurance? Yes, they both can be and will be sued.

Use of high speed handpieces cause permanent removal of tooth structure. So please do not take this bill lightly. What the assistant does with a high speed handpiece will be irreversible.

The dental assistants will still need direct supervision of a dentist. I realize the goal may be to offer dental care in underserved areas however, the reality is that this puts all citizens of Virginia at risk for poor dental care and injury.

As the hippocratic oath states: "First do no harm"

4/29/12 9:56 pm

Commenter: Heather Stoddard,RDH *

You have to be kidding me

I am a Dental Hygienist against this and find it completely ridiculous that it is even up for a discussion. I really don't even feel as though a DAII should even be starting and completing a filling. I started out in dentistry eighteen years ago and worked as a dental assistant. I then completed my degree in dental hygiene. I have never once thought I was qualified to place a restoration let alone handle a high speed hand piece in a patient's mouth. I realize that the DA II has more training and a better understanding of the science behind dentistry compared to the DAI. However, the extended training does not provide enough understanding and skill to place an instrument in a patient's mouth that could potentially cause harm. It takes four years of undergrad and four plus years to become a D.D.S. and then you are minimally competent as the dentist. It takes years of practice to become competent, that why it is called practice. I am sorry if you want to act like a dentist than please join me as I am back in school to become a D.D.S. I am sorry dentistry is treated like the red headed step child, come on people this is the prime example why. I understand we need to figure out access to care but this is a poor way of doing it. When the day comes that I complete dental school I can promises you this....Only a D.D.S will be preforming the duties that are within their scope of practice!

4/29/12 9:56 pm

Commenter: Heather Stoddard,RDH *

You have to be kidding me

I am a Dental Hygienist against this and find it completely ridiculous that it is even up for a discussion. I really don't even feel as though a DAII should even be starting and completing a filling. I started out in dentistry eighteen years ago and worked as a dental assistant. I then completed my degree in dental hygiene. I have never once thought I was qualified to place a restoration let alone handle a high speed hand piece in a patient's mouth. I realize that the DA II has more training and a better understanding of the science behind dentistry compared to the DAI. However, the extended training does not provide enough understanding and skill to place an instrument in a patient's mouth that could potentially cause harm. It takes four years of undergrad and four plus years to become a D.D.S. and then you are minimally competent as the dentist. It takes years of practice to become competent, that why it is called practice. I am sorry if you want to act like a dentist than please join me as I am back in school to become a D.D.S. I am sorry dentistry is treated like the red headed step child, come on people this is the prime example why. I understand we need to figure out access to care but this is a poor way of doing it. When the day comes that I complete dental school I can promises you this....Only a D.D.S will be preforming the duties that are within their scope of practice!

4/29/12 9:56 pm

Commenter: Heather Stoddard,RDH *

You have to be kidding me

I am a Dental Hygienist against this and find it completely ridiculous that it is even up for a discussion. I really don't even feel as though a DAII should even be starting and completing a filling. I started out in dentistry eighteen years ago and worked as a dental assistant. I then completed my degree in dental hygiene. I have never once thought I was qualified to place a restoration let alone handle a high speed hand piece in a patient's mouth. I realize that the DA II has more training and a better understanding of the science behind dentistry compared to the DAI. However, the extended training does not provide enough understanding and skill to place an instrument in a patient's mouth that could potentially cause harm. It takes four years of undergrad and four plus years to become a D.D.S. and then you are minimally competent as the dentist. It takes years of practice to become competent, that why it is called practice. I am sorry if you want to act like a dentist than please join me as I am back in school to become a D.D.S. I am sorry dentistry is treated like the red headed step child, come on people this is the prime example why. I understand we need to figure out access to care but this is a poor way of doing it. When the day comes that I complete dental school I can promises you this....Only a D.D.S will be performing the duties that are within their scope of practice!

4/29/12 9:56 pm

Commenter: Heather Stoddard, RDH *

You have to be kidding me

I am a Dental Hygienist against this and find it completely ridiculous that it is even up for a discussion. I really don't even feel as though a DAII should even be starting and completing a filling. I started out in dentistry eighteen years ago and worked as a dental assistant. I then completed my degree in dental hygiene. I have never once thought I was qualified to place a restoration let alone handle a high speed hand piece in a patient's mouth. I realize that the DA II has more training and a better understanding of the science behind dentistry compared to the DAI. However, the extended training does not provide enough understanding and skill to place an instrument in a patient's mouth that could potentially cause harm. It takes four years of undergrad and four plus years to become a D.D.S. and then you are minimally competent as the dentist. It takes years of practice to become competent, that why it is called practice. I am sorry if you want to act like a dentist than please join me as I am back in school to become a D.D.S. I am sorry dentistry is treated like the red headed step child, come on people this is the prime example why. I understand we need to figure out access to care but this is a poor way of doing it. When the day comes that I complete dental school I can promises you this....Only a D.D.S will be performing the duties that are within their scope of practice!

4/29/12 10:49 pm

Commenter: Bettina Gigliello, RDH, BSDH, CDA, President FDHA *

DA II use of highspeed handpiece intraorally

Although I have great respect for the role that each person on the dental team plays to support the oral and systemic health of our patients, I also recognize the limitations of each position. I do NOT support the use of high speed handpieces intraorally by DAII. Use of the highspeed handpiece requires great skill and control. This has the potential to put the public we serve at risk.

4/30/12 9:44 am

Commenter: ken stoner, DDS *

Dangerous procedure to delegated

Using a high speed handpiece is a very dangerous procedure. It should not be delegated to someone other than a licensed dentist.

4/30/12 12:11 pm

Commenter: Gregory K. Kontopoulos, D.D.S. *

against DAII using high speed handpieces in patients mouths

I am completely against the use of high speed handpieces by DAII's in patients mouths. We train dental students for four years to do this irreversible treatment and no amount of training for a dental assistant will qualify them to be as competent to do these procedures as a dentist. I feel they should go to Dental School to be trained properly and pass the Board Exam before doing so. If this is put into law the Commonwealth's citizens will be put at risk. I realise access to care is a problem but to have assistants doing this type of treatment is unfair to the public and should be prohibited.

4/30/12 12:45 pm

Commenter: Ron Vranas, DDS *

Not something to be taken lightly

Considering that a high speed handpiece rotates at 400,000 RPMs, four years of training at an accredited dental school should be the minimum requirement for anyone considering performing an irreversible procedure in a person's mouth. Allowing procedures like this to be undertaken by DA2s belittles the training all dentists go through in order to take on this mighty responsibility.

4/30/12 1:12 pm

Commenter: Dr Robert Candler, DDS, TDA *

Operating handpiece(highspeed) intraorally by DA II

Probably not a good idea in most cases and I would be against delegation of this task.

4/30/12 9:06 pm

Commenter: Steven G. Forte D.D.S. *

DAII use of high-speed handpiece

I am strongly opposed to anyone other than a trained dentist, using the high-speed handpiece. I urge the BOD to not consider this request and maintain that irreversible procedures be performed only by the dentist.

4/30/12 10:46 pm

Commenter: Debra, RDH *

Use of high speed hand piece by DAII

5/1/12 10:23 am

Commenter: Nancy Daniel CDA BSHCM - Dental Assisting Program Head - JSRCC *

DAII- Use of High Speed Handpiece

I have mixed opinions about this petition. As a program head at a community college that will eventually offer in-depth Level II courses I know this is necessary to fulfill the intent of Level II but I am not sure if this is a good idea. I can understand that removal of flash, contouring/finishing composites, and adjusting occlusion will be needed in the completion of restorations but I am concern about the education/training/skills of the person using the high speed handpiece. If the Board of Dentistry decides to pass this additional Level II petition then the educational hours for the composite and amalgam modules need to be adjusted to reflect the additional hours of training and coursework involved. Public safety is of utmost concern.

5/1/12 11:23 am

Commenter: ASHLEY D CRIGGER *

RDH

This is absurd no dental assistant should be operating any tool as such. If they want to be a RDH then go to school for it. Hygiene requires alot more education than an assistant can obtain in the programs they are attending

5/1/12 11:26 am

Commenter: ASHLEY D CRIGGER *

RDH

Go to dental school if you want to do fillings. No DAI is putting a filling or scaling anything in my mouth or families mouth.

5/2/12 9:38 pm

Commenter: Sharon, RDH *

This is insane

I was a C.D.A. for over 10 years before going back to college and receiving my degree in dental hygiene. To allow an assistant to perform such procedures with no guidelines is insane. Even with guidelines it is insane, as a hygienist I view this as malpractice, a definite possible harm to the patients who expect the best dental care possible. To allow a DAI to use a highspeed handpiece in the mouth would be as dangerous as giving your child a loaded gun for a play toy. Please don't destroy the dental profession by allowing this to happen.

5/2/12 10:00 pm

Commenter: Nancy *

I DON'T WANT A DENTAL ASSISTANT PUTTING A HIGH SPEED INSTRUMENT IN MY MOUTH

5/3/12 4:57 pm

Commenter: John A Marino, DDS VDA Delegate *

Use of high speeds by dental assistants

Several years ago I was very active in helping to structure the proposals which lead to the current regulations. The proposals were carefully crafted to both protect the public and to address access to care in underserved areas of the state. Many hours were invested by qualified dentists in consultation with registered hygienists; that is why the regulations are the way they are. Allowing the use of high speeds by anyone other than a licensed dentist to cut human tissues constitutes far too great a risk to the public. One of the published comments from a non-registered user agrees with this but also includes an exception for "correcting high spots on restorations". The lack of comprehension displayed here by a lay person is understandable. However, it also illustrates just how damaging this type of thinking could be. After more than 40 years spent treating TMJ and occlusal problems I cannot think of a better way to create problems than to have amateurs adjusting the occlusion.

«

John A Marino, DDS

5/3/12 9:19 pm

Commenter: Brad W. *

Rotary Tools

I find this to be absurd and a safety concern, as well.

5/7/12 5:59 pm

Commenter: Steven J. Barbieri *

Use of high speed handpiece by DAI

I am opposed to allowing the use of the high speed handpiece by DAI. The high speed is an instrument which requires careful control which is attained by attending four years of dental school. Improper use can be very detrimental to the patient.

5/8/12 10:38 am

Commenter: Madelyn Gambrel, DDS *

this is malpractice!!!

To allow DAI's to use a highspeed handpiece is a horrible idea. Dentist train for years to gain the skill to use a high speed on patients. We train on plastic and extracted teeth for two years prior to clinical care, and then only use a handpiece with a rubber dam in place, which gives the patient's some protection. I strongly oppose this and agree with others who have stated how this belittles the training dentists endure to be able to do their work successfully and not harm their patients.

5/8/12 9:52 pm

Commenter: Denice Burnette EFDA, CDA DAI *

Understanding EFDA/DAI

I have read the comments that others have left. I wanted it to be clear that Expanded Function Dental Assistant are not your general dental assistant. There is alot of schooling and trainings to be come an Expanded Function Dental Assistant DAI. In which all of this is new to Virginia. If you look at other states, some EFDA/DAI are licensed to do extraction, yes I said that right, some states allow there EFDA/DAI to finish RCT. I just want everyone to understand that there's a lot of schooling and training that comes with being a EFDA/DAI. We as EFDA/DAI we are taught the Anatomic Features of the ALL teeth, contour, all your line angles, cavity wall, cavosurface angle, pulp capping and so on. A EFDA/DAI and a Dental hygienist are not the same it's too different license. A person can finish high school and go straight to hygiene school and became a hygienst in 2 yrs, but a person can't finish high school and go straight to EFDA/DAI school you have to become a Dental Assistant first and then you go back to college to be come a EFDA/DAI. If we looked back 10yrs ago and said about hygienist giving anesthesia people would have thought you where crazy but they have been doing that for years in other states. It's like a dentist said at a CE course why shouldnt they, nurses give shots every day, and he is right it's the same thing. I would like for everyone to see/know whats all involved in EFDA/DAI. The highspeed handpiece isn't used on tooth surface just filling part only!!! As a EFDA/DAI I am licensed to place and finish fillings but I can't clean/scale your teeth, but a hygienst can clean/scale your teeth but they aren't licensed to do fillings. That's because it's to different license. I hope this helped some people who maybe didn't understand the EFDA/DAI and all that's involved. For anyone who is thinking about going back to school to get your EFDA/DAI I hope this has helped you. I love being a EFDA/DAI been doing it for over 16 yrs. I love having a patient come in that has broken down teeth and wont smile and being able to restore their teeth back and seeing them smile when they look at their new tooth/teeth. That makes my day. Thank you all and have a Blessed week.

5/18/12 5:58 pm

Commenter: Gary C. Hanna, DMD *

Consider

I agree with the petition with the following concerns.

If the Board of Directors decides to implement the general consideration of this petition, it would also clearly define more specific operative and educational guidelines. Further logical limits including oversight parameters would be imperative, as in dental school, for the necessary professional competence needed for this level of dental care delivery.

This has been accomplished before, not only in other U.S. states, but in other countries, very successfully. Now it is our turn.

As with the delegation of other responsibilities to qualified parodontal personnel, this careful examination of skill application will only further expand the dentist's ability to deliver health care more efficiently and effectively.

I have had the privilege of having an expanded duty D.A. II working with me for some time. She is well experienced, well trained, and very well accepted by our patients. This D.A. II knows well her limits and stays within them. Her presence has greatly reduced the work stress factor in our office.

The focus here is not on personal accomplishments but on the quality and effectiveness of the services we render to our patients. This a positive step in that direction.

5/18/12 7:26 pm

Commenter: Helen M. French RN, BSN,ADN *

I.E. Allowing dental assistant to use high speed drill issue

I did not take the time to "research" who petitioned for "allowing" dental assistants to use high speed drills but in view of national data pertaining to the high rates of injuries, infections, and etc. and even deaths in all types of healthcare systems, I, as a seasoned and expert operating room nurse, find this type of attempt to expand / delegate more and more "medical tasks" to UAPs (unlicensed assistive personnel) or even perhaps to licensed staffers who are not medically educated or medically trained (either in medical school or in dental school) appalling!

Why not just close down all medical and dental and etc schools since "someone" believes just "anyone" can be trained to do anything! I challenge those who keep attempting to expand unqualified staffers to get on the operating room table themselves or into the dental chairs and allow themselves to be guinea pigs.....sad.....there are more safety regulations pertaining to research animals than there are to human beings.

Why is it that it always seems like the "issue" seem like it is all about "getting" more patients processed faster so the coffers fill up faster and higher? This issue is analogous to the California NPs (nurse practitioners) and PAs (physician assistants) who recently asked for "priviledges to perform abortions".....if a woman has an abortion then she should have IT performed by a qualified doctor or surgeon!

Since, we do not live in an underdeveloped country, I expect our standards to be better.

My opinions, respectfully

Helen M. French RN,BSN,ADN

Comment on petition by email

Mrs. Yeatts,

I would like to vote NO to this amendment . As a hygienist who is not licensed to use a rotary devise and has a four year degree I feel this is not an appropriate function for a DA2 and should not be under there scope of practice. Catherine S. Seifert ,RDH ,BS
FAADH

Catherine S. Seifert,RDH, BSDH, FAADH
Fellow of the Academy of American Dental Hygiene
President, Tidewater Dental Hygiene Association (Va.)
Old Dominion University Adjunct Faculty
email:smilecat8@verizon.net

Vu, Huong (DHP)

From: Dag Zapatero [Dag.Zapatero@verizon.net]
Sent: Monday, April 30, 2012 5:17 PM
To: Vu, Huong (DHP)
Subject: Re: petition for rulemaking
Attachments: image.png

Dear Board of Dentistry,

I would very much be opposed to this petition going forward.

It is my belief that only a trained and licensed dentist has the authority and possess the knowledge to operate a high speed handpiece intra orally in our Commonwealth. A high speed handpiece is capable of doing irreversible damage to both hard and soft tissue in the mouth. I do not believe that a DAII posses the knowledge or skill sets to understand dental occlusion, dental materials, cavity prep design or dental pathology sufficiently enough to understand the consequences of their actions, and would be of danger to the public.

The inadvertent removal of a balance interference can cause irreversible changes to the occlusion and lead to TMD in a asymptomatic patient. I do not believe a DAII understands the differences between a functional, and a not functional contacts, or when a balancing interference is present on a tooth. These are very complex issues that require much care and study before mastery. Can a DAII differentiate external resorption from decay or abfraction? Do they understand the anatomy of a tooth, or went its proper to refer?

I am sure we have very capable DAII practicing in Virginia, and I would encourage them to keep learning and caring for patients. We should not allow any patient to be exposed to an incompetent provider no matter how well intended their actions might be. I do not understand how the publics health is improved by this measure, in any manner. A patient who needs dental care should seek a trained and licensed dentist. This is not a matter of convince or financial indifference. It's about public health safety and the definition of a dentist in the practice of dentistry in Virginia. I have supported the efforts of DAIIs in other aspects but not here.

Respectfully,
Dag Zapatero, DDS,
Mastership in the Academy of General Dentistry
L.D. Pankey Institute Scholar



Starfish Dental

Dag Zapatero, DDS, MAGD | 3020 Shore Drive | Virginia Beach, VA 23451
office. 757.481.3893 | fax 757.481.0425 | www.Starfishdental.com

--



Please consider the environment before printing this e-mail.

The content of this email was intended solely for the recipient, and should not be forwarded or disseminated without the consent of the sender.

Reen, Sandra (DHP)

From: Reen, Sandra (DHP)
Sent: Friday, May 11, 2012 3:39 PM
To: Rob Kapp
Subject: FW: Member record update request
Attachments: Member Record Update Request 2012.doc; Virginia.pdf

Hi Rob:

The Virginia Board of Dentistry has decided not to renew its AADB membership for 2012-2013. The Board's decision was made after considering the Commonwealth of Virginia's travel policies and the membership policies of the AADB. After our membership expires, I would appreciate receiving notice of AADB meetings so we might consider participation in the continuing education opportunities AADB offers.

Sandra K. Reen, Executive Director
Virginia Board of Dentistry
804-367-4437



May 15, 2012

Ms. Sandra Reen
Virginia Board of Dentistry
Perimeter Center
9960 Mayland Drive, Ste. 300
Henrico, VA 23233

Dear Ms. Reen:

We received your email indicating that the State of Virginia will not be joining the American Association of Dental Boards this year. I would like to encourage you to reconsider your membership, especially at a time when the AADB is involved in several projects that will be of great benefit to dental boards.

The AADB Executive Council is concerned with the increasing government involvement in the healthcare arena. The FTC has brought a suit against North Carolina with respect to teeth-whitening kiosks and the Institute for Justice has done the same with the Connecticut dental board. Furthermore, the FTC staff sent a letter to the State of Maine Board of Dental Examiners opposing the board's proposed rules regarding a two-year pilot project which would allow Independent Practice Dental Hygienists (IPDHs) to take x-rays in underserved areas but would limit the type of x-rays to bitewing and periapical. The FTC believes this would impede the intent of the project. As a result of this involvement, the AADB Executive Council has decided to join the FSMB and other health associations in developing a coalition to raise awareness on Capitol Hill regarding the FTC's interference into state health regulatory boards' decisions on patient safety. The results of these efforts should be of great interest to all state dental boards, including Virginia.

In addition, the AADB has just completed the pilot stage of a new program that will assist dental boards in sanctioning dental professionals. The Assessment Services Program (ASP) is made up of two parts: the Dentist-Professional Review and Evaluation Program (D-PREP) which is an in-depth assessment program involving three dental education assessment centers (University of Maryland, Marquette, and Louisiana State) which will help boards to determine whether or not a dentist can return to practice. The other portion of ASP is the Expert Review Assessment (ERA) where a board can send background information on a sanctioned dentist which will be reviewed by a specially trained expert who will summarize the case and provide the board with an expert opinion.

Lastly, I would like to remind you of the benefits of the AADB Clearinghouse for Board Actions, the intent of which is to restrict the ability of incompetent practitioners to move from state to state. Information indicating whether or not an individual has been involved in a board action can be obtained on request or by referral to a periodic report sent to member boards

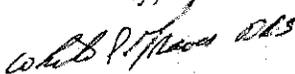
211 E. Chicago Avenue • Suite 760 • Chicago, Illinois 60611
312.440.7464

monthly. Currently, this information is available to all dues paying state boards at no charge for the monthly published list and the first 50 queries annually. Should a state who is not a member ask for information, the fee for the first inquiry would be the equivalent of the state board membership fee and a \$6.00 charge for each additional query. The National Practitioner Data Bank is operational but the NPDB **cannot** publish periodic reports.

These are just a few of the benefits of AADB membership. Other benefits include the Association's two national meetings where attendees are able to discuss problems facing their boards and exchange information with their colleagues, communication on national issues, representation on the National Practitioner Data Bank Executive Committee, four appointments to the Commission on Dental Accreditation, four appointments to the Council on Dental Education and Licensure, six appointments to the Joint Commission on National Dental Examinations, an appointment to the Dental Assisting National Board and an appointment to the Continuing Education Recognition Program. The Association also nominates members to the Commission on Dental Accreditation to be part of the accreditation teams for site visits. Several members of the Virginia board have represented the AADB on ADA commissions, councils, and committees as well as to DANB in the past.

The Virginia dental board and its members have actively supported the Association over the years and we look forward to their continued support. The AADB is a valuable resource and we hope you will move forward with us. If you have any questions, please feel free to contact me: whitegraves@bellsouth.net or 318-325-6427.

Sincerely,



White S. Graves, III, DDS
President

cc: Members, Virginia Board of Dentistry
Members, AADB Executive Council
Ms. Molly Nadler

lydia.scott@usvi-doh.org; dlafail@sec.state.vt.us; jennifer.santiago@doh.wa.gov; kelli.kaalele@wisconsin.gov; wvbde@suddenlinkmail.com; dbridg@wyo.gov; Hart, Karen; Ziebert, Anthony J.; Brian T. Kennedy (bkennedy@nycap.rr.com); Brittany Bensch (bensch@uw.edu); Chris Salierno (drsalierno@gmail.com); David Perkins (dperkdmd@yahoo.com); Low, Samuel B.; Patrick M. Lloyd (lloyd.256@osu.edu); Vigna, Edward J.
Subject: ADA's portfolio style exam

Dr. William R. Calnon, President
American Dental Association
211 E. Chicago Avenue
Chicago, IL 60611-2678

Dear Dr. Calnon:

The members of the Wyoming Board of Dental Examiners, at their meeting of February 24, 2012, reviewed the ADA's proposal to develop a portfolio-style of exam for initial licensure.

The Wyoming Dental Board agrees with the Oregon, West Virginia, and Tennessee Dental Boards in that it is the responsibility and privilege of each state to regulate and license the practice of dentistry and dental hygiene. Every Board member is experienced and cognitive about the profession.

The licensure process includes an independent, fair, third party, clinical examination. The Wyoming Board has evaluated the clinical examinations in great detail and recognizes the value of an independent third party clinical examining entity. To imply the clinical examinations are onerous or unfair is ridiculous.

The Wyoming Board of Dental Examiners does not support the portfolio-style examination nor the ADA's involvement in their pursuit. The Wyoming board urges the ADA to stop this invasion upon the the rights of each state to decide its licensing process.

Respectfully,

Nick A. Bouzis D.D.S.
President Wyoming Board of Dental Examiners

cc: All State Boards of Dentistry

E-Mail to and from me, in connection with the transaction of public business, is subject to the Wyoming Public Records Act and may be disclosed to third parties.



RECEIVED

APR 17 2012

Board of Dentistry

ARKANSAS STATE BOARD OF DENTAL EXAMINERS

101 East Capitol Avenue, Suite 111

Little Rock, AR 72201

PH: (501) 682-2085 FX: (501) 682-3543

Web: www.asbde.org Email: asbde@arkansas.gov

H. Warren Whitis, DDS
President
Osceola

10 April 2012

Drew W. Toole, DDS
Vice-President
Pine Bluff

Dr. William R. Calnon, President
American Dental Association
211 East Chicago Avenue
Chicago, Illinois 60611-2678

George Martin, DDS
Secretary-Treasurer
Fayetteville

Dear Dr. Calnon,

Robert D. Keene, DDS
North Little Rock

The Arkansas State Board of Dental Examiners met on Friday, March 16, 2012, and reviewed the October 25, 2011, American Dental Association's Request for Proposals (RFP) to develop a portfolio-style examination for initial license and the letters from the Boards of Tennessee, Oregon, West Virginia, Wyoming and Louisiana. The Board voted unanimously to vehemently oppose the ADA's proposal and expressed concern that the ADA would even consider this subjugation upon the States' authority to protect its citizens.

David Bell, DDS
Arkadelphia

David E. Walker, DDS
Pine Bluff

The ASBDE implores the ADA to withdraw this proposal and continue to follow their stated mission: "The ADA is the *professional association* of dentists that fosters the success of a diverse *membership* and advances the oral health of the public."

Jennifer Lamb, RDH
Little Rock

Sincerely,

Sheila Castin
Public Member
Little Rock

H. Warren Whitis, D.D.S.
President

cc: Dr. White Graves, AADB President
All State Dental Boards

Nevada State Board of Dental Examiners

APR 23 2012

William G. Pappas, D.D.S.
President



Donna J. Hellwinkel, D.D.S.
Secretary-Treasurer

6010 S. Rainbow Boulevard, Building A, Suite 1 • Las Vegas, Nevada 89118 • (702) 486-7044 • (800) DDS-EXAM • Fax (702) 486-7046

April 17, 2012

William R Calnon, DDS
President
American Dental Association
211 E Chicago Avenue
Chicago, IL 60611-2678

Re: 2010 ADA House of Delegates Resolution 42H-2010—RFP Process for
Portfolio Style Clinical Examination

Dear Dr. Calnon:

The Nevada State Board of Dental Examiners is submitting comments to the request for proposal, supported by the ADA, to develop and administer a portfolio style clinical examination for licensure. As you know, nearly all state licensing boards have accepted ADA standards of review and performance evaluation in the establishment of dental and allied dental education programs to meet educational requirements deemed necessary by state licensing boards for licensure. Additionally, state boards have accepted ADA development of a written, theoretical examination to test an individual's knowledge of the applicable dental sciences necessary for application of knowledge in dental and dental hygiene practice. However, the administration and independent assessment of the physical clinical demonstration of competency has remained a particular responsibility of state dental boards, including this board in Nevada.

State boards have not relinquished their responsibility and concern to actively participate in the development of appropriate and accepted standards necessary to establish educational requirements in the dental disciplines nor the continued development of examinations, written and clinical, in the dental disciplines to appropriately evaluate an individual's knowledge, ability, and skill to safely, efficiently, and competently practice dentistry and dental hygiene. State boards have chosen to work with the ADA to ensure safe and qualified individuals enter the practice relying on the ADA's overall commitment to those ideals as well.

The testing techniques to accomplish the overall mission of the state boards for safe and competent practice should not be unilaterally determined by the ADA. Such



STATE OF IOWA

IOWA DENTAL BOARD

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

MELANIE JOHNSON, J.D.
EXECUTIVE DIRECTOR

April 25, 2012

Dr. William Calnon, President
American Dental Association
211 E. Chicago Avenue
Chicago, IL 60611-2678

Dear Dr. Calnon:

At the April 24, 2012 meeting of the Iowa Dental Board, the members of the Board reviewed ADA's Request for Proposal to develop a portfolio-style examination for initial licensure. The Board voted unanimously to oppose the ADA's portfolio-style examination proposal.

The Board agrees with the other state dental boards that have submitted letters to ADA indicating that it is the responsibility and privilege of each state to regulate and license the practice of dentistry and dental hygiene. The members of the Iowa Dental Board feel strongly that the clinical examination process should remain a grassroots effort led by state dental boards. The Board has evaluated the various clinical examinations and concluded that they provide a fair, independent, third party assessment of readiness to practice dentistry or dental hygiene.

We urge the ADA to reconsider its involvement in the pursuit of a portfolio-style examination. Each state is authorized to establish and decide its own licensing process. We ask that the ADA respect that authority.

Sincerely,

Gary Roth, D.D.S.
Chairperson, Iowa Dental Board

disregard for the duty of state dental boards, and respectful collegiality previously existing is more than disappointing. It is a targeted and direct challenge to the mission and duty of the state boards.

The Nevada State Board of Dental Examiners collectively and unanimously issues an objection to this RFP process for the development and administration of a portfolio style examination for licensure by the ADA at this time. The Board of Trustees of the ADA is urged to communicate with their membership about the particular functions of the membership body versus those of the state boards of dentistry. While there has been, and we hope will continue to be, mutual advocacy for the respective and distinct responsibilities we each have, there will also be a manner and process for appropriately encouraging consideration of varied approaches to our missions.

Sincerely,

A handwritten signature in black ink, appearing to read "William G Pappas". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

William G Pappas, DDS
President

kjk/WP

cc: White S Graves, DDS, President, AADB
State Dental Boards



BOARD OF DENTAL EXAMINERS OF ALABAMA
Stadium Parkway Office Center-Suite 112
5346 Stadium Trace Parkway
Hoover, Al 35244-4583
PHONE 205-985-7267
FAX 205-985-0674
e-mail: bdeal@dentalboard.org

May 9, 2012

Dr. William R. Calnon, President
American Dental Association
211 East Chicago Avenue
Chicago, Illinois 60611-2678

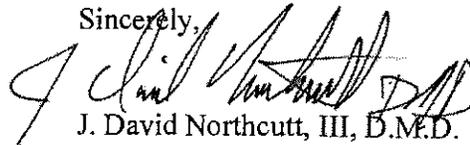
Dear Dr. Calnon,

The Board of Dental Examiners of Alabama reviewed the American Dental Association's October 25, 2011, Request for Proposals (RFP) to develop a portfolio-style examination for initial licensure for dentists and dental hygienists.

The Alabama Board agrees with the other state dental boards submitting responses to the American Dental Association in regard to this RFP that it is the responsibility of each state's licensing board to regulate the practice of dentistry and dental hygiene in their individual jurisdictions. The Alabama Board has carefully evaluated the various clinical examinations and concluded that they provide an appropriate assessment of an applicant's readiness to safely practice dentistry and dental hygiene at the entry level.

Further, the Alabama Board strongly opposes the ADA's proposal and urges the ADA to reconsider its involvement in the development of a portfolio-style examination. Licensure and examination of candidates by regional exams or as an autonomous entity is the duty and responsibility of the state regulatory licensing boards, not of a professional association.

Sincerely,



J. David Northcutt, III, D.M.D.
President

CC: All State Boards of Dentistry
American Association of Dental Boards
All Regional Testing Agencies

MAY 8 2012



BOARD OF DENTAL EXAMINERS OF ALABAMA
Stadium Parkway Office Center-Suite 112
5346 Stadium Trace Parkway
Hoover, AL 35244-4583
PHONE 205-985-7267
FAX 205-985-0674
e-mail: bdeal@dentalboard.org

May 9, 2012

Dr. William R. Calnon, President
American Dental Association
211 East Chicago Avenue
Chicago, Illinois 60611-2678

Dear Dr. Calnon,

The Board of Dental Examiners of Alabama reviewed the American Dental Association's October 25, 2011, Request for Proposals (RFP) to develop a portfolio-style examination for initial licensure for dentists and dental hygienists.

The Alabama Board agrees with the other state dental boards submitting responses to the American Dental Association in regard to this RFP that it is the responsibility of each state's licensing board to regulate the practice of dentistry and dental hygiene in their individual jurisdictions. The Alabama Board has carefully evaluated the various clinical examinations and concluded that they provide an appropriate assessment of an applicant's readiness to safely practice dentistry and dental hygiene at the entry level.

Further, the Alabama Board strongly opposes the ADA's proposal and urges the ADA to reconsider its involvement in the development of a portfolio-style examination. Licensure and examination of candidates by regional exams or as an autonomous entity is the duty and responsibility of the state regulatory licensing boards, not of a professional association.

Sincerely,

J. David Northcutt, III, D.M.D.
President

CC: All State Boards of Dentistry
American Association of Dental Boards
All Regional Testing Agencies



NEW MEXICO BOARD OF DENTAL HEALTH CARE
NEW MEXICO DENTAL HYGIENIST COMMITTEE
New Mexico Regulation and Licensing Department
BOARDS AND COMMISSIONS DIVISION

Toney Anaya Building • 2550 Cerrillos Road • Santa Fe, New Mexico 87505
(505) 476-4680 • Fax (505) 476-4545 • www.RLD.state.nm.us/dental

April 26, 2012

Ms. Lois Haglund
Portfolio RFP
American Dental Association
211 East Chicago Ave.
Chicago, IL 60611

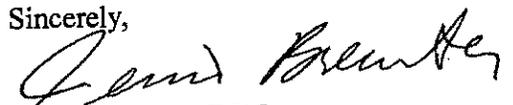
Dear Ms. Haglund;

The New Mexico Board of Dental Health Care recently reviewed your RFP for the portfolio type of examination for licensure. At our January meeting, the New Mexico Board of Dental Health Care unanimously voted to oppose the suggestion of a portfolio exam for licensure. First of all it struck us that this was a request to develop a specific exam, not to come up with original ideas on the subject. We strongly feel the portfolio exam is rife with problems and potential conflicts of interest. To allow a student to complete a portfolio procedure and then decide after the fact whether to submit that procedure is wrong. How often can we as dentists tell the patient, "I want to take back that last procedure I just did, we'll try again later". The "pressure" of taking a clinical exam is actually part of the test. Dentists in practice must work under pressure every day; to simulate this in an exam is important. It is disturbing that the ADA, an organization committed to promoting dentistry, sees no conflict of interest in promoting the interests of a few who don't want to take a clinical exam, at the possible expense of the citizens we serve. As a Board we have a duty to provide the residents of our state with clinically competent dentists, to this end we cannot accept the portfolio type of examination.

Most of all we are disturbed that the ADA continues to see itself as the entity that should intervene in how to license dentists in an individual state. The ADA was founded to give our profession a united voice and to keep members informed of issues affecting the profession. In these areas, the ADA has excelled. To now intrude into state licensing and regulating of dentists is beyond the scope and mandate of its members. We feel that the ADA is an important part of our profession; your intrusion into state's rights can lead to weakening of your now strong position. We suggest, as members of the ADA, that it would be best for the ADA to step back and allow each state to license and regulate dentists as best suits each individual state, for the protection of our citizens.

Our objection applies not only to this recent RFP for the portfolio exam but also to the suggestion that using live patients for exams is somehow unethical. Is having a dental and medical student learn on live patients unethical? When our practices consist of typodont mouths then it will be acceptable to use typodonts to fully evaluate the clinical competence of a dentist to practice in New Mexico. This is clearly an issue of state rights and we take umbrage to this intrusion on our jurisdiction. We would suggest that the ADA concentrate on promoting the "Art and Science of Dentistry" and leave to the Boards the problem of how to assure competency.

Sincerely,


Jessica Brewster, DDS
Board Chair
New Mexico Board of Dental Health Care

Revision date: 01/2009

**ADA American
Dental
Association®**

America's leading
advocate for oral health

211 East Chicago Avenue
Chicago, Illinois 60611-2637

T 312.440.2700
F 312.440.7488
www.ada.org

William R. Calnon, D.D.S.
President

March 16, 2012

Dr. Nick A. Bouzis
President
Wyoming Board of Dental Examiners
1800 Carey Avenue, 4th Floor
Cheyenne, WY 82002

Dear Doctor Bouzis:

Thank you for your recent correspondence to the American Dental Association regarding the House of Delegates Resolution 42H-2010, directing that a Request for Proposals (RFP) be prepared calling for the development of a portfolio-style examination for initial licensure purposes.

As you know, the 2010 House of Delegates directed this activity; a progress report was provided to the 2011 House of Delegates. The Resolution 42H Workgroup is on target to forward its final report and recommendations on whether the ADA should pursue and fund the development of a portfolio style examination to the 2012 House of Delegates in San Francisco.

Your letter urges the ADA to reconsider this activity and requests that matters of licensure of dental professionals be left to the individual states. Be assured that your comments will be shared with the Workgroup. I also encourage you to share your concerns with the Wyoming Dental Association. The ADA truly appreciates and values input from all of its members. Thank you for taking the time to express the Wyoming Board of Dental Examiners' position.

Sincerely,

William R. Calnon

William R. Calnon, D.D.S.
President

WRC/ljh:kb

cc: Dr. Gary S. Yonemoto, trustee, Fourteenth Trustee District
Members, ADA Workgroup on Resolution 42H-2010 (Portfolio Style Examination)
Dr. Anthony Ziebert, senior vice president, Education/Professional Affairs
Ms. Karen Hart, director, Council on Dental Education and Licensure

**ADA American
Dental
Association®**

America's leading
advocate for oral health

211 East Chicago Avenue
Chicago, Illinois 60611-2637

T 312.440.2700
F 312.440.7488
www.ada.org

William R. Calnon, D.D.S.
President

May 3, 2012

Dr. William G. Pappas, President
Nevada State Board of Dental Examiners
6010 S. Rainbow Blvd., Building A., Suite 1.
Las Vegas, Nevada 89118

Dear Doctor Pappas:

Thank you for your April 17, 2012, correspondence to the American Dental Association (ADA) regarding the House of Delegates' action directing the ADA to prepare a Request for Proposals (RFP) calling for the development of a portfolio-style examination for initial licensure purposes (Resolution 42H-2010). We appreciate all opinions expressed on this issue.

The ADA fully supports the state dental board's role in regulating the practice of dentistry. The intent of Resolution 42H-2010 is for the ADA to seek the expertise of a qualified agency to develop a portfolio-style examination that could be used by state dental boards as another avenue to evaluate a candidate for licensure, such as the PGY-1 (NY, CT, CA, MN, WA), the National Dental Examining Board of Canada's two part examination (MN) and the portfolio examination recently adopted in California. The RFP was sent to all the dental clinical testing agencies as well as some private test development companies with experience in dental testing.

ADA recognizes the challenges of a portfolio-style examination and hopes that the testing community will view the ADA's action as an opportunity to develop an alternative clinical assessment tool that could be utilized and supported by the state boards. It was never the ADA's intention to administer the examination.

I hope this clarifies the intent of Resolution 42H-2010.

Sincerely,

William R. Calnon

William R. Calnon, D.D.S.
President

WRC/ljh:kb

cc: Dr. White Graves, AADB President
All State Dental Boards
Members, ADA Workgroup on Resolution 42H-2010 (Portfolio Style Examination)
Dr. Anthony Ziebert, senior vice president, Education/Professional Affairs
Ms. Karen Hart, director, Council on Dental Education and Licensure
Ms. Lois J. Haglund, manager, Dental Licensure, CDEL

The following information is intended to assist dental licensure candidates, as well as examiners and educators involved in the testing process, in recognizing ethical considerations when patients are part of the clinical licensure process.

Background: Dental licensure is intended to ensure that only qualified individuals are licensed to provide dental treatment to the public. Most licensing jurisdictions have three general requirements: an educational requirement-graduation from a dental education program accredited by the Commission on Dental Accreditation; a written (theoretical) examination-to determine whether the applicant has achieved the theoretical bases at a level of competence that protects the health, welfare and safety of the public; and a clinical examination in which a candidate demonstrates the clinical knowledge, skills and abilities necessary to safely practice dentistry.

Anecdotal information and experiences reported in the literature by licensees and educators have raised ethical considerations when human subjects/patients are used in the examination process.¹⁻⁶ While others disagree, it is recognized that the profession must ensure that the welfare of patients is safeguarded in every step of the clinical licensure examination process.⁷

The licensure examination process is evolving. Many clinical examination agencies continue to monitor developments for applicability and affordability of alternatives to human subjects/patients in providing valid and reliable assessment of clinical competence.

The ADA has voiced its position regarding the use of human subjects/patients in clinical examinations through a series of resolutions culminating with the adoption of the 2005 House of Delegates' Resolution 20H-2005.⁸⁻¹⁰ This resolution reaffirms ADA support for the elimination of human subjects/patients in the clinical licensure examination process while giving exception to a more recent methodology for testing known as the curriculum-integrated format (CIF). The 2006 ADA House of Delegates directed the ADA Council on Dental Education and Licensure to develop a definition of CIF and present it to the 2007 House of Delegates. The 2007 House adopted the following definition (1H:2007):

Curriculum Integrated Format: An initial clinical licensure process that provides candidates an opportunity to successfully complete an independent "third party" clinical assessment prior to graduation from a dental education program accredited by the ADA Commission on Dental Accreditation.

If such a process includes patient care as part of the assessment, it should be performed by candidates on patients of record, whenever possible, within an appropriately sequenced treatment plan. The competencies assessed by the clinical examining agency should be selected components of current dental education program curricula.

All portions of this assessment are available at multiple times within each institution during dental school to ensure that patient care is accomplished within an appropriate treatment plan and to allow candidates to remediate and retake any portions of the assessment which they have not successfully completed.

Given that currently there are no new technologies that completely eliminate the use of human subjects/patients in the clinical examination processes, the ADA Council on Ethics, Bylaws and Judicial Affairs (CEBJA)¹¹ called on major stakeholders, including the ADA's Council on Dental Education and Licensure (CDEL), to provide input for the development of a statement that would identify key ethical considerations and provide guidance to help ensure the welfare of the patient remains paramount.

Ethical Considerations When Using Human Subjects/Patients in the Examination Process

1. Soliciting and Selecting Patients: The ADA Principles of Ethics and Code of Professional Conduct¹² (ADA Code), Section 3, Principle: Beneficence states that the "dentist's primary obligation is service to the patient" and to provide "competent and timely delivery of dental care within the bounds of clinical circumstances presented by the patient, with due consideration given to the needs, desires and values of the patient." The current examination processes require candidates to perform restorative and periodontal treatments on patients. In light of the principle stated above, this may create an ethical dilemma for the candidate when seeking patients to sit for the exam. Candidates should refrain from the following:
 1. Reimbursements between candidates and patients in excess of that which would be considered reasonable (remuneration for travel, lodging and meals).
 2. Remuneration for acquiring patients between licensure applicants.
 3. Utilizing patient brokering companies.
 4. Delaying treatment beyond that which would be considered acceptable in a typical treatment plan (e.g. delaying treatment of a carious lesion for 24 months).

2. Patient Involvement and Consent: The ADA Code, Section 1, Principle: Patient Autonomy states that "the dentist's primary obligations include involving patients in treatment decisions in a meaningful way, with due consideration being given to the patient's needs, desires and abilities." Candidates and dental examiners support patient involvement in the clinical examination process by having a written consent form that minimally contains the following basic elements:
 1. A statement that the patient is a participant in a clinical licensure examination, that the candidate is not a licensed dentist, a description of the procedures to be followed and an explanation that the care received might not be complete.
 2. A description of any reasonably foreseeable risks or discomforts to the patient.
 3. A description of any benefits to the patient or to others which may reasonably be expected as a result of participation.
 4. A disclosure of appropriate alternative procedures or courses of treatment, if any, that might be advantageous to the patient.
 5. An explanation of whom to contact for answers to pertinent questions about the care received.
 6. A statement that participation is voluntary and that the patient may discontinue participation at any time without penalty or loss of benefits to which the patient is otherwise entitled.

3. Patient Care: The ADA Code, Section 3, Principle: Beneficence states that the dentist has a “duty to promote the patient’s welfare.” Candidates can do this by ensuring that the interests of their patient are of primary importance while taking the exam. Examiners contribute to this by ensuring that candidates are adequately monitored during the exam process such that the following treatment does not occur:
 1. Unnecessary treatment of incipient caries.
 2. Unnecessary patient discomfort.
 3. Unnecessarily delaying examination and treatment during the test.

4. Follow-Up Treatment: The ADA Code, Section 2, Principle: Nonmaleficence states that “professionals have a duty to protect the patient from harm.” To ensure that the patient’s oral health is not jeopardized in the event that he/she requires follow-up care, candidates and dental examiners should make certain that the patient receives the following:
 1. A clear explanation of what treatment was performed as well as what follow-up care may be necessary.
 2. Contact information for pain management.
 3. Complete referral information for patients in need of additional dental care.
 4. Complete follow-up care ensured by the mechanism established by the testing agency to address care given during the examination that may need additional attention.

Sources:

1. Dr. Lloyd A. George Nov. 3, 2005 Letter to Dr. James W. Antoon, chair CEBJA
2. CEBJA March 2, 2006 Strategic Issue Discussion – Use of Patients in Clinical Licensure Examinations
3. Richard R. Ranney, D.D.S., et al., “A Survey of Deans and ADEA Activities on Dental Licensure Issues” Journal of Dental Education, October 2003
4. Allan J. Formicola, D.D.S., et al., “Banning Live Patients as Test Subjects on Licensing Examinations,” Journal of Dental Education, May 2002
5. “The Agenda for Change,” Objectives Developed at the Invitational Conference for Dental Clinical Testing Agencies by representatives of the clinical testing agencies and other organizations with an interest in dental licensure sponsored by the American Dental Association. It is considered informational and does not represent policy of the ADA. March 4, 1997
6. ASDA Resolution 202RC-2005, Revision of Policy L-1 Initial Licensure Pathways
7. Position Statement of the American Association of Dental Examiners in Response to ADA Resolution 64H, Oct. 12, 2001
8. ADA HOD Resolution 34-2006, Definition of Curriculum Integrated Format
9. ADA HOD Resolution 20H-2005, Elimination of the Use of Human Subjects in Clinical Licensure/Board Examinations
10. ADA House of Delegates (HOD) Resolution 64H-2000, Elimination of the Use of Human Subjects in Clinical Licensing/Board Examinations
11. CEBJA is the ADA agency responsible for providing guidance and advice and for formulating and disseminating materials on ethical and professional conduct in the practice and promotion of dentistry.
12. The entire text of the ADA Principles of Ethics and Code of Professional Conduct can be found on the ADA website at www.ada.org.

October 2008

Disciplinary Board Report for June 8, 2012

Today's report addresses the Board's disciplinary case activities for the third quarter of fiscal year 2012 which includes the dates of January 1, 2012, to March 31, 2012.

The table below includes all cases that have received Board action since January 1, 2012 through May 23, 2012.

Q3 FY2012	Cases Received	Cases Closed No/Violation	Cases Closed W/Violation	Total Cases Closed
Jan' 12	25	27	21	48
Feb' 12	28	26	10	36
March '12	39	34	12	46
April '12	31	9	5	14
May 23, 12	26	12	5	17
Totals	149	108	53	161

For the third quarter the Board received a total of 83 patient care cases and closed a total of 90 for a 108% clearance rate. In the second quarter of the year, the board received 68 cases and closed 85. The current pending caseload older than 250 days is 14%. Of the 90 cases closed in the third quarter of 2012, 97% were within 250 days. The Board exceeded the goals for the agency's performance measures for the third quarter quarter.

The Board currently has 235 open cases assigned a priority A-D. Seventy-seven cases are in probable cause with 31 at Board member review. We have 4 Confidential Consent Agreements that have been offered for signature. The Board has 36 cases with the Administrative Proceedings Division and 11 cases are in investigation, 6 cases are scheduled for informal conferences and 5 for a formal hearing.

Board staff has begun pre-reviewing cases before they are sent out for Probable Cause review. Staff is looking to ensure investigations are adequate as to complete and legible treatment notes and that all necessary interviews are being conducted. Staff has been doing this for three months and it does appear to have had an effect on cases coming back from Board members needing further investigation.

The Probable Cause review sheet has also been revised and updated. These changes include staff verifying complete investigations and also noting possible allegations made by the source as well as allegations noted by staff. While staff is working to make Probable Cause reviewers' work more efficient, please do not substitute staff's pre-review and notes for your own judgment.

***The Agency's Key Performance Measures.**

- We will achieve a 100% clearance rate of allegations of misconduct by the end of FY 2009 and maintain 100% through the end of FY 2010.
- We will ensure that, by the end of FY 2010, no more than 25% of all open patient care cases are older than 250 business days.
- We will investigate and process 90% of patient care cases within 250 work days.

RECEIVED

MAY 10 2012

OFFICE OF THE ATTORNEY GENERAL
HEALTH SERVICES SECTION

VIRGINIA: IN THE CIRCUIT COURT FOR THE CITY OF VIRGINIA BEACH

JEFFREY R. LEIDY, D.M.D.,

v.

LAW NO: CL08-6627

VIRGINIA BOARD OF DENTISTRY,

NONSUIT ORDER

NOW COMES, Jeffrey R. Leidy, M.D., by counsel, and moves this Honorable Court for a nonsuit of case CL08-6627, pursuant to Va. Code §8.01-380; and

IT APPEARING that this is the first nonsuit as to this matter, that there are no other pending lawsuits against the defendant arising from the same facts giving rise to this action, and that there are no pending counterclaims, cross-claims, or third-party claims, it is hereby

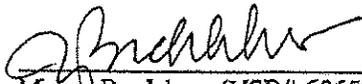
ADJUDGED, ORDERED and DECREED that, Jeffrey R. Leidy, M.D.'s motion to nonsuit case CL08-6627 is GRANTED, and that this action is hereby ~~DISMISSED~~ ^{NONSUIT}, pursuant to Va. Code §8:01-380. The Clerk is hereby directed to forward a certified copy of this order to all counsel of record.

ENTERED this 4 of May 2012.


CIRCUIT COURT JUDGE

I ASK FOR THIS:

CERTIFIED TO BE A TRUE COPY
OF RECORD IN MY CUSTODY
TINA E. SINNEN, CLERK
CIRCUIT COURT, VIRGINIA BEACH, VA
BY Coral Butters
DEPUTY CLERK

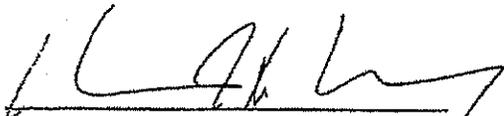


Megan Bradshaw (VSB# 68652)
GOODMAN, ALLEN & FILETTI, PLLC
215 Brooke Avenue, Suite A
Norfolk, Virginia 23510
(757) 625-1400
(757) 625-7701 (fax)
Counsel for Plaintiff



Jason Davis (VSB# 37117)
Kaufman & Canoles, P.C.
150 West Main Street
Post Office Box 3037
Norfolk, Virginia 23514
(757) 624-3000
(757) 624-3196 (fax)

SEEN AND AGREED:



Howard M. Casway, Esquire (VSB# 14741)
Office of the Attorney General
Senior Assistant Attorney General
900 E. Main St., 4th Floor
Richmond, VA 23219
(804) 786-1023
Fax: (804) 371-8718
Counsel for Defendant

BOARD OF DENTISTRY PROPOSED 2013 CALENDAR

JANUARY													JULY												
S	M	T	W	T	F	S	S	M	T	W	T	F	S												
		1	2	3	4	5	1	2	3	4	5	6													
6	7	8	9	10	11	12	7	8	9	10	11	12	13												
13	14	15	16	17	18	19	14	15	16	17	18	19	20												
20	21	22	23	24	25	26	21	22	23	24	25	26	27												
27	28	29	30	31			28	29	30	31															
FEBRUARY													AUGUST												
S	M	T	W	T	F	S	S	M	T	W	T	F	S												
					1	2					1	2	3												
3	4	5	6	7	8	9	4	5	6	7	8	9	10												
10	11	12	13	14	15	16	11	12	13	14	15	16	17												
17	18	19	20	21	22	23	18	19	20	21	22	23	24												
24	25	26	27	28			25	26	27	28	29	30	31												
MARCH													SEPTEMBER												
S	M	T	W	T	F	S	S	M	T	W	T	F	S												
						2	1	2	3	4	5	6	7												
3	4	5	6	7	8	9	8	9	10	11	12	13	14												
10	11	12	13	14	15	16	15	16	17	18	19	20	21												
17	18	19	20	21	22	23	22	23	24	25	26	27	28												
24	25	26	27	28	29	30	29	30																	
31																									
APRIL													OCTOBER												
S	M	T	W	T	F	S	S	M	T	W	T	F	S												
1	2	3	4	5	6		1	2	3	4	5	6	7												
7	8	9	10	11	12	13	8	9	10	11	12	13	14												
14	15	16	17	18	19	20	15	16	17	18	19	20	21												
21	22	23	24	25	26	27	22	23	24	25	26	27	28												
28	29	30					29	30	31																
MAY													NOVEMBER												
S	M	T	W	T	F	S	S	M	T	W	T	F	S												
						1	2	3	4																
5	6	7	8	9	10	11	5	6	7	8	9	10	11	12											
12	13	14	15	16	17	18	17	18	19	20	21	22	23												
19	20	21	22	23	24	25	24	25	26	27	28	29	30												
26	27	28	29	30	31																				
JUNE													DECEMBER												
S	M	T	W	T	F	S	S	M	T	W	T	F	S												
						1	1	2	3	4	5	6	7												
2	3	4	5	6	7	8	8	9	10	11	12	13	14												
9	10	11	12	13	14	15	15	16	17	18	19	20	21												
16	17	18	19	20	21	22	22	23	24	25	26	27	28												
23	24	25	26	27	28	29	29	30	31																
30																									

FORMAL HEARINGS	BOARD MEETINGS	RESERVE DAYS	SCC - A	SCC - B and Credentials	SCC - C
March 7	March 8	Feb 22	January 11	January 25	January 4
June 6	June 7	May 17	March 1	March 15	February 15
September 12	September 13	Oct 18	April 12	April 26	March 29
December 5	December 6		May 24	June 14	May 10
			July 12	July 19	June 21
			August 23	August 30	August 2
			October 4	October 11	September 20
			November 15	November 29	October 25

Adopted: _____

Assembly Bill No. 1524

CHAPTER 446

An act to amend Sections 1630 and 1632 of, to add Sections 1632.1 and 1632.6 to, and to repeal Section 1631 of, the Business and Professions Code, relating to dentistry.

[Approved by Governor September 29, 2010. Filed with
Secretary of State September 29, 2010.]

LEGISLATIVE COUNSEL'S DIGEST

AB 1524, Hayashi. Dentistry: examination requirements.

The Dental Practice Act provides for the licensure and regulation of dentists and associated professions by the Dental Board of California within the Department of Consumer Affairs. Existing law requires an applicant for a license to practice dentistry to complete various examinations, including the National Board Dental Examination, an examination in California law and ethics developed by the board, and a clinical and written examination administered either by the board or the Western Regional Examining Board. Existing law prescribes the maximum amount of fees to be charged for examination, licensure, and renewal, for deposit into the State Dentistry Fund.

This bill would abolish the clinical and written examination administered by the board. The bill would instead replace that examination with a portfolio examination of an applicant's competence to enter the practice of dentistry, which would be conducted while the applicant is enrolled in a dental school program at a board-approved dental school. The bill would require this examination to utilize uniform standards of clinical experiences and competencies, as approved by the board. At the end of that dental school program, the bill would then require the passage of a final assessment of the applicant's portfolio, subject to certification by his or her dean and payment of a \$350 fee. Under the bill, the portfolio examination would not be conducted until the board adopts regulations to implement the portfolio examination. The bill would require the board to provide specified notice on its Internet Web site and to the Legislature and the Legislative Counsel when these regulations have been adopted by the board. The bill would require the board to oversee the portfolio examination and final assessment process, and would require the board to biennially review each dental school with regard to the standardization of the portfolio examination. The bill would also set forth specified examination standards.

The bill would also, as part of the ongoing implementation of the portfolio examination, require the board, by December 1, 2016, to review the examination to ensure compliance with certain requirements applicable to all board examinations under the department's jurisdiction. The bill would

provide that the examination shall cease to be an option for applicants if the board determines the examination fails to meet those requirements. The bill would require the board to submit its review and certification or determination to the Legislature and the department, by December 1, 2016.

The people of the State of California do enact as follows:

SECTION 1. Section 1630 of the Business and Professions Code is amended to read:

1630. The examination of applicants for a license to practice dentistry in this state, as described in Section 1632, shall be sufficiently thorough to test the fitness of the applicant to practice dentistry, and both questions and answers shall be written in the English language.

SEC. 2. Section 1631 of the Business and Professions Code is repealed.

SEC. 3. Section 1632 of the Business and Professions Code is amended to read:

1632. (a) The board shall require each applicant to successfully complete the Part I and Part II written examinations of the National Board Dental Examination of the Joint Commission on National Dental Examinations.

(b) The board shall require each applicant to successfully complete an examination in California law and ethics developed and administered by the board. The board shall provide a separate application for this examination. Applicants shall submit this application and required fee to the board in order to take this examination. In addition to the aforementioned application, the only other requirement for taking this examination shall be certification from the dean of the qualifying dental school attended by the applicant that the applicant has graduated, or will graduate, or is expected to graduate. Applicants who submit completed applications and certification from the dean at least 15 days prior to a scheduled examination shall be scheduled to take the examination. Successful results of the examination shall, as established by board regulation, remain valid for two years from the date that the applicant is notified of having passed the examination.

(c) Except as otherwise provided in Section 1632.5, the board shall require each applicant to have taken and received a passing score on one of the following:

(1) A portfolio examination of the applicant's competence to enter the practice of dentistry. This examination shall be conducted while the applicant is enrolled in a dental school program at a board-approved school located in California. This examination shall utilize uniform standards of clinical experiences and competencies, as approved by the board pursuant to Section 1632.1. The applicant shall pass a final assessment of the submitted portfolio at the end of his or her dental school program. Before any portfolio assessment may be submitted to the board, the applicant shall remit to the board a three hundred fifty dollar (\$350) fee, to be deposited into the State Dentistry Fund, and a letter of good standing signed by the dean of his or

her dental school or his or her delegate stating that the applicant has graduated or will graduate with no pending ethical issues.

(A) The portfolio examination shall not be conducted until the board adopts regulations to carry out this paragraph. The board shall post notice on its Internet Web site when these regulations have been adopted.

(B) The board shall also provide written notice to the Legislature and the Legislative Counsel when these regulations have been adopted.

(2) A clinical and written examination administered by the Western Regional Examining Board, which board shall determine the passing score for that examination.

(d) Notwithstanding subdivision (b) of Section 1628, the board is authorized to do either of the following:

(1) Approve an application for examination from, and to examine an applicant who is enrolled in, but has not yet graduated from, a reputable dental school approved by the board.

(2) Accept the results of an examination described in paragraph (2) of subdivision (c) submitted by an applicant who was enrolled in, but had not graduated from, a reputable dental school approved by the board at the time the examination was administered.

In either case, the board shall require the dean of that school or his or her delegate to furnish satisfactory proof that the applicant will graduate within one year of the date the examination was administered or as provided in paragraph (1) of subdivision (c).

SEC. 4. Section 1632.1 is added to the Business and Professions Code, to read:

1632.1. (a) With regard to the portfolio examination specified in paragraph (1) of subdivision (c) of Section 1632, the board shall independently monitor and audit the standardization and calibration of dental school competency instructors at least biennially to ensure standardization and an acceptable level of calibration in the grading of the examination. Each dental school's competency examinations shall be audited biennially by the board.

(b) The board shall oversee all aspects of the portfolio examination process specified in paragraph (1) of subdivision (c) of Section 1632 and under this section, but shall not interfere with the dental school authority to establish and deliver an accredited curriculum. The board shall determine an end-of-year deadline, in consultation with the current board-approved dental schools, to determine when the portfolio examinations shall be completed and submitted to the board for review by the board's examiners.

(c) The board, in consultation with the current board-approved dental schools, shall approve portfolio examination competencies and the minimum number of clinical experiences required for successful completion of the portfolio examination.

(d) The board shall require and verify successful completion of competency examinations that were performed on a patient of record of a board-approved dental school, including, but not limited to, the following:

(1) Comprehensive oral diagnosis and treatment planning.

- (2) Periodontics.
- (3) Direct restorations.
- (4) Indirect restorations.
- (5) Removable prosthodontics.
- (6) Endodontics.

SEC. 5. Section 1632.6 is added to the Business and Professions Code, to read:

1632.6. (a) As part of the ongoing implementation of paragraph (1) of subdivision (c) of Section 1632, the board shall review the portfolio examination to ensure compliance with the requirements of Section 139 and to certify that the portfolio examination process meets those requirements. If the board determines that the portfolio examination fails to meet those requirements, paragraph (1) of subdivision (c) of Section 1632 shall cease to be implemented and the portfolio examination will no longer be an option for applicants. The board's review and certification or determination shall be completed and submitted to the Legislature and the department by December 1, 2016.

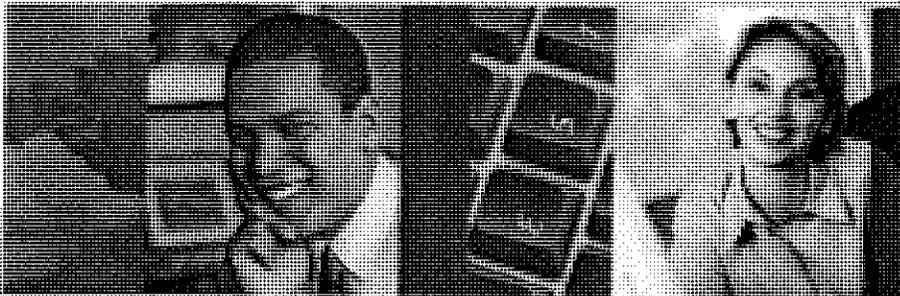
(b) A report to the Legislature pursuant to this section shall be submitted in compliance with Section 9795 of the Government Code.

(c) This section shall become inoperative on December 1, 2020, pursuant to Section 10231.5 of the Government Code.

O

ALTERNATIVE PATHWAYS FOR INITIAL LICENSURE FOR GENERAL DENTISTS

SUBMITTED TO
Office of Professional Examination Services
California Department of Consumer Affairs
2420 Del Paso Road, Suite 265
Sacramento, CA 95834



FINAL REPORT



PREPARED BY
Comira

Psychometric Services Division
110 Blue Ravine Road, Suite 160
Folsom, California 95630
February 9, 2009

TABLE OF CONTENTS

SECTION 1: INTRODUCTION	1
BACKGROUND.....	1
PURPOSE OF THE STUDY.....	2
CRITERIA FOR SUCCESS.....	2
PSYCHOMETRIC STANDARDS	3
SECTION 2: RESEARCH STRATEGY	4
GENERAL APPROACH	4
ASSUMPTIONS	4
TERMINOLOGY.....	4
APPLICABLE PSYCHOMETRIC STANDARDS.....	5
TASKS ACCOMPLISHED.....	6
SECTION 3: ALTERNATIVE PATHWAYS.....	7
CURRICULUM INTEGRATED FORMAT	7
OBJECTIVE STRUCTURED CLINICAL EXAMINATION	7
TRADITIONAL PORTFOLIO.....	8
HYBRID PORTFOLIO EXAMINATION MODEL.....	11
SECTION 4: CLINICAL COMPETENCIES ASSESSED	15
CLINICAL COMPETENCY STATEMENTS OF EACH SCHOOL.....	15
CLINICAL COMPETENCIES TESTED	22
SECTION 5: KEY FINDINGS FROM INTERVIEWS/SITE VISITS	31
SECTION 6: OTHER FINDINGS.....	34
OCCUPATIONAL ANALYSIS AND EXISTING CLINICAL EXAMINATIONS	34
REQUIREMENTS FOR LICENSURE IN THE U.S. AND CANADA	35
NUMBER OF GRADUATES PER YEAR	36
SECTION 7: CONCLUSIONS	37
SECTION 8: REFERENCES	39
APPENDIX A – AAE LEVELS OF DIFFICULTY	42

LIST OF TABLES

Table 1 – Competency statements in California dental schools: UCSF	16
Table 2 – Competency statements in California dental schools: UOP	17
Table 3 – Competency statements in California dental schools: UCLA	19
Table 4 – Competency statements in California dental schools: USC	20
Table 5 – Competency statements in California dental schools: LLU	21
Table 6 – Examples of rating scales for periodontic scaling/root planing	22
Table 7 – Examples of rating scales for indirect restoration	22
Table 8 – Examples of rating scales for composite restoration	23
Table 9 – Examples of rating scales for endodontic	24
Table 10 – Summary of competencies assessed	25
Table 11 – Competency examinations at UCSF	26
Table 12 – Competency examinations at UOP	27
Table 13 – Competency examinations at UCLA	28
Table 14 – Competency examinations at USC	29
Table 15 – Competency examinations at LLU	30
Table 16 – Comparison of practices in U. S. and Canada for initial licensure	36

SECTION 1: INTRODUCTION

BACKGROUND

The Dental Bureau of California is considering alternative pathways to initial licensure, and, in 2008, the Bureau contracted with Comira to explore the feasibility of those pathways. There have been many concerns about existing clinical examinations, particularly in terms of validity of the content tested and reliability of the judgments made about candidate performance. Chambers (2004a) cites the difficulties of "one-shot" clinical examinations in terms of cost effectiveness, fairness, reliability and validity despite efforts to improve them. He states that "one-shot" examinations have unknown validity, expose the public to an unnecessary level of risk, and fail to sample the full range of competencies. The California Dental Association has adopted a policy in 2005 that "supports elimination of human subjects/patients in the clinical licensure process with the exception of the alternative methods of licensure examinations that are carried out within the dental schools' curricula."

Based on interviews, observations, and documentation, four alternatives to initial licensure were identified. They were Curriculum Integrated Format (CIF), Objective Standardized Clinical Examination (OSCE), traditional portfolio, and a hybrid portfolio examination. The hybrid portfolio examination is an alternative based upon the synthesis of the traditional portfolio and test cases (or competency cases) used in the dental schools for competency evaluations.

Two formats in particular, portfolio and the OSCE have been used successfully in Canada and the United Kingdom for credentialing medical and dental professionals. Chambers (2004a, 2004b) and others advocate the use of clinical portfolios because portfolios provide a more fair, less costly method for assessment. Moreover, portfolios use more data, more diverse data, and data of a higher quality than is currently used. Chambers (2004b) states that "because attempts to improve initial licensure examinations have not been founded in measurement theory, partial and inadequate remedies have led to a cycle of refutations, defenses and political polarization (p. 173)." The OSCE is becoming more widely used in dentistry, particularly for summative assessments in coursework at institutions such as the Royal London School of Medicine and Dentistry and Leeds Dental Institute. The National Dental Examining Board of Canada (NDEB) began to include OCSE as part of the certification process in 1994. To this day, the NDEB uses the OSCE in lieu of actual patients for clinical assessments.

PURPOSE OF THE STUDY

The purpose of the study is to explore alternative pathways to initial licensure and make recommendations as to their merits.

CRITERIA FOR SUCCESS

The following criteria, some of which have been identified by the California Dental Association (CDA, 2008) and Webb, Endacott, Gray, Jasper, McMullan & Scholes (2003) are critical elements for implementing an alternative pathway for initial licensure:

1. Oversight maintained by the Dental Bureau/Board of California
2. Built-in system for auditing the process
3. Does not require additional resources from the students, schools, or the Dental Bureau/Board of California
4. Must be instituted within the current systems of student evaluation
5. Must be considered an examination that meets all professional testing standards
6. Meets psychometric standards, relevant to current practice, and designed for minimum competence
7. Is designed to cover the full continuum of competence
8. Evaluation of competence is within the course of treatment plan for patients of record
9. Evaluators are regularly calibrated for consistent implementation of the alternative examination
10. Has policies and procedures that treat licensure candidates fairly and professionally, with timely and complete communication of examination logistics and results

PSYCHOMETRIC STANDARDS

The Standards for Educational and Psychological Testing (1999) set forth by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education serve as the standards for evaluating all aspects of credentialing, including professional and occupational credentialing. The Standards are used by the measurement profession as the psychometric standards for validating all examinations, including licensing and certification examinations.



SECTION 2: RESEARCH STRATEGY

GENERAL APPROACH

In order for the study to be thorough and objective, it was necessary to contact deans, associate deans, and key faculty at the five Bureau-approved dental schools to gain an understanding of their predoctoral programs for general dentists. Comira conducted interviews with the deans and key faculty in charge of competency examinations by telephone and/or met with them at their schools. Comira also extensively reviewed written documentation regarding the examinations to gain insights into the procedures used in competency examinations and associated scoring systems.

ASSUMPTIONS

The occupational analysis conducted by the Office of Examination Resources at the California Department of Consumer Affairs identified the competencies of general dentists and served as the basis for the Board's examination program. The Board requires individuals seeking licensure to pass written and clinical examinations in order to become licensed in California.

Discussion of existing pathways, such as PGY-1, Western Regional Examining Board (WREB), programs for internationally-trained practitioners, or the Dental Bureau's clinical examination were not included as part of this report.

TERMINOLOGY

A "competency examination" differs from a laboratory practical exercise or a clinical examination conducted as part of coursework, in that the competency examination is performed without intervention by faculty. The job of faculty is to determine the student's competence through a procedure and stop the examination only if the patient would be harmed.

A "test case" or "evaluation case" refers to the patients used within each school's competency examinations. The student dentist is required to follow strict guidelines in selecting patients for competency examinations, and cannot proceed with any treatment without faculty approval.

APPLICABLE PSYCHOMETRIC STANDARDS

The Standards for Educational and Psychological Testing (1999) use the term "test" broadly and include credentialing procedures as well as actual examinations.

Standard 14.8 states:

"Evidence of validity based on test content requires a thorough and explicit definition of the content domain of interest. For selection, classification, and promotion, the characterization of the domain should be based on a job analysis (p. 160)."

Standard 14.9 states:

"When evidence of validity based on test content is a primary source of validity evidence in support of the use of a test in selection or promotion, a close link between test content and job content should be demonstrated (p. 160)."

Standard 14.10 states:

"When evidence of validity based on test content is presented, the rationale for defining and describing a specific job content domain in a particular way (e.g., in terms of tasks to be performed or knowledge, skills, abilities or other personal characteristics) should be stated clearly (p. 160)."

Standard 14.13 states:

"When decision makers integrate information from multiple tests or integrate test and nontest information, the role played by each test in the decision process should be clearly explicated, and the use of each test or test composition should be supported by validity evidence (p. 161)."

Standard 14.14 states:

"The content domain to be covered by a credentialing test should be defined clearly and justified in terms of the importance of the content for credential-worthy performance in an occupation or profession. A rationale should be provided to support the claim that the knowledge or skills being assessed are required for credential-worthy performance in an occupation and are consistent with the purpose for which the licensing or certification program was instituted (p. 161)."

TASKS ACCOMPLISHED

There were four tasks performed as part of the present study:

- (a) Perform background research and literature review of material related to alternative pathways and their psychometric characteristics;
- (b) Interview SMEs, observe school practices and examinations at Bureau-approved dental schools;
- (c) Identify competency statements in Bureau-approved dental schools; and,
- (d) Identify underlying constructs and compare clinical competencies tested in Bureau-approved dental schools according to those constructs.

SECTION 3: ALTERNATIVE PATHWAYS

CURRICULUM INTEGRATED FORMAT

Definition. The curriculum integrated format (CIF) is described on page 5 of "Information for the New Graduate" (American Dental Association, 2008) as:

"...clinical examinations that use simulated patients (manikins). The CIF examinations are administered to senior dental students of record beginning with the simulated examinations early in the senior year and the restorative and periodontal examinations early in the second semester of the senior year. It allows dental students to take the examination in sections spread out across their last year of dental school, instead of taking all four parts at the very end of senior year. Candidate scores are reported to their dental school administration for the purpose of student remediation. Students can be eligible for licensure by the time of graduation, which means that they can begin planning their transition out of dental school several weeks earlier than those whose exams are near graduation and have to wait eight weeks for scores. As of fall 2006, all schools in the Central Regional Dental Testing Services (CRDTS), Northeast Regional Board of Dental Examiners (NERB), and Council of Interstate Testing Agencies (CITA) utilize CIF in their clinical licensure examination....Students often have three opportunities to pass the CIF before graduation."

All states and jurisdictions that use the CRDTS or NERB examinations use CIF examinations.

Disadvantages of CIF. Elliot (2008) states that the use of manikins, as in the CIF, provides standardization of the level of treatment difficulty. However, manikins present the same dilemma as actual patients in traditional clinical examinations because only a narrow range of examination procedures are performed.

OBJECTIVE STRUCTURED CLINICAL EXAMINATION

Definition. The Objective Structured Clinical Examination (OSCE) requires candidates to rotate through a series of stations in which they must perform specific tasks such as review information supplied in a specified period of time, e.g., case history, photographs, radiographs, casts, models) and answer extended matching type questions. Each extended matching type question involves up to 15 questions and one or more correct answers. Some stations require the candidate to write a prescription for a patient, based on information about a specific case. There are no actual patients used at any of the stations. One organization (Accreditation Council for Graduate Medical Education, 2000) describes the OSCE as very useful to measure specific

clinical skills and abilities, but difficult to create and administer and cost effective only when many candidates are to be examined in one administration.

Disadvantages of OSCE. Zartman, McWhorter, Seale, and Boone (2002) use the OSCE format to assess the effectiveness of their pediatric dentistry program at the Baylor College of Dentistry. They indicated that during their transition into the OSCE format, there were several changes that were necessary for format to work.

First, the logistics of developing and administering the examination were time consuming. There were considerations that had to be made for the size of group to be assessed, the amount of space available, and the time limits for administration. Second, there were modifications that had to be made to the curriculum based on the feedback they received from students regarding what were considered basic concepts. Third, there was a great deal of student anxiety about the impending changes in curriculum format. Faculty responded to the students' anxiety by creating modules similar to the OSCE format within the curriculum. Fourth, the candidate data from the OSCE stations were scored by a number of scorers. In a number of cases, the faculty had to develop a standardized methodology to score the examinations.

Nonetheless, there have been studies exploring psychometric qualities of the OSCE. Gerrow, Murphy, Boyd, and Scott (2003) explored the reliability of the written and OSCE components of the certification process for 2,317 graduating dental students in Canada. Candidate data from the examinations were entered into a database along with their year of graduation, school, and performance in the final year. They found statistically significant correlation coefficients between the written and OSCE examinations, but the correlations only explained 20% of the variation in class rankings.

TRADITIONAL PORTFOLIO

Definition. Portfolios in the arts or humanities-based education often include evidence of self-assessment; however, when used for regulatory purposes, the definition is much narrower. For example, Reckase (1995, p. 12) defines a portfolio as a "purposeful collection of student work that exhibits to the student and/or others the student's efforts, progress, or achievement in (a) given area(s). This collection must include student participation in selection of portfolio content, criteria for selection, criteria for judging merit, and, evidence of student self-reflection." He notes that this definition is intended to develop a hypothetical application of portfolio assessment.

By contrast, a clinical portfolio assesses performance in contexts that simulate clinical settings. Challis (2001) points out that "if portfolio is to be used for assessment; there should be total clarity on the part of the learner and assessor as to the purpose of the portfolio, why this method is being used, and what criteria the assessors will be using to make judgments about the portfolio. Achieving this clarity will require a climate of trust and partnership between learners and assessors, whilst still accepting that judgments will need to be made about learner progress and achievement (p. 438-439)."

The portfolio is often organized by competencies, unlike the portfolios used in non-clinical settings, e.g., undergraduate education in the arts or humanities. The Accreditation Council on Graduate Medical Education describes portfolios as tools to measure competence according to six outcomes: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice (Jarvis, O'Sullivan, McClain, & Clardy, 2004).

Lettus, Mosessner, and Dooley (2001) define a portfolio as a collection of work or materials that demonstrates growth over time and a file or collection of original work or documents that support the work. Its strength is its ability to capture learning over time, to allow for a genuine link to clinical situations, and to provide a framework for students to assess their strengths and weaknesses. These authors acknowledge that the development of some standard portfolio requirements for registered nurses with well-trained reviewers can alleviate the challenges posed by the need to evaluate student work within the educational setting.

Another definition of a portfolio was recently proposed by the Dental Bureau of California (2007) as a collection of verified clinical experiences based on results of competency examinations in diagnosis and treatment planning, periodontics, direct and indirect restorative, prosthodontics, and endodontics. Each candidate who wishes to obtain initial licensure by competency would be required to have performed a specific number of clinical experiences prior to submitting a portfolio. Each portfolio would be evaluated by a team of examiner-auditors from the Bureau and a team of clinical competency evaluators/instructors from the schools.

Elliott (2008) describes portfolios as "the use of live patients in a third-party evaluation developed during the educational process. In a portfolio, students provide examples of evidence (patient experiences) to support and document their claims of clinical competency, based on their institutional program's competencies.

Psychometric issues relating to the use of portfolios. If used for summative rather than formative purposes, the portfolio must meet stringent psychometric requirements that include standardization, rater training with structured guidelines for making decisions, and large numbers of examiners to average out rater effects (Driessen, van der Vleuten, Schuwirth, Tartwijk & Vermunt, 2005, p. 215; Davis & Ponnampereuma, 2005, Friedman Ben-David, Davis, Harden, Howie, Ker, & Pippard, 2001). Friedman Ben-David et al. note that the validity of the inferences made about the portfolio depend on the reliability of the test. If the test scores or ratings suffer from low inter-rater agreement or poor sampling, inferences cannot be made. Moreover, there should be a clear definition of the purpose of the portfolio and identification of the competencies to be assessed. Webb, et al (2003) and McMullan (2003) cite several criteria that should be used to evaluate portfolio assessments, namely, explicit grading criteria, evidence from a variety of sources, internal quality assurance processes, and external quality assurance processes.

Content validity is also important in developing an examination for initial licensure (Chambers, 2004a) such that there should be a validation process that inquires whether tasks being evaluated should be representative of tasks critical to safe and effective practice. A recent paper by Patterson, Ferguson, and Thomas (2008) in *Medical Education* also calls for validation of the process in terms of using a job analysis to identify core and specific competencies.

A recent paper entitled "Point/Counterpoint: Do portfolio assessments have a place in dental licensure?" addresses many of these issues specifically as they pertain to the purpose of licensure rather than education in general (Hammond & Buckendahl, 2006; Ranney & Hambleton, 2006).

Hammond and Buckendahl do not support the use of portfolios for dental licensure. Two issues are important in considering portfolio assessments. First, standardizing the training and evaluation across a broad range of locations would be difficult. Second, demonstrations of abilities in past records would need to be verified so that there is an evaluation of the current range of competencies. These authors contend that the portfolio does not provide an assessment of minimum skills that is administered *independent* of the training program to support licensure decisions; and therefore, provides no external validation and verification of the students' competence. Moreover, there may be measurement error, or low reliability, within the system as a result of errors in content sampling, number of observations of performance, number of examiners rating the candidate's performance, assumptions of unidimensional relationships between items, lack of inter-rater agreement, and reliance on pairs rather than triads of examiners for all candidates.

On the other hand, Ranney and Hambleton (2006) support the use of portfolios for dental licensure. According to these authors, testing agencies have published little or no data to allow an assessment of reliability or validity of their examinations. Variability in the reliability of clinical licensure examinations and pass rates among testing agencies may reflect lack of reliability or validity in the examination process, and, omission of skills necessary to practice safely at the entry level, not just changes in candidate populations. Furthermore, there is great dissatisfaction amongst dental school deans connected with the use of patients. The authors recognize that several criteria would need to be met before portfolio assessment could be implemented. The most important of these criteria are: administration by independent parties, inclusion of a full continuum of candidate competencies for comprehensive evaluation, and, evaluating competence within the context of a treatment plan designed to meet the patient's oral health care needs. In their discussion, the authors believe that portfolio assessments could work if the developers considered which tasks to measure, how the tasks would be scored, calibration protocols for examiners, and how performance expectations would be set.

Faculty concerns regarding portfolio process. Lettus et al. (2001) cite several faculty concerns regarding the portfolio process. First, was the structure and process of the portfolio. Second, was the students' ability to develop written portfolios that met

expected professional standards. Third, was the accuracy and legitimacy of the documentation. Fourth, was the inter-rater reliability of the examiners. These concerns are addressed by providing a structure and framework for the portfolio, a means to verify the authenticity of the information presented, and a well-defined rating system for use by examiners.

Student perceptions of portfolio process. Davis, Ponnampereuma and Ker (2009) identified and analyzed medical student attitudes in the United Kingdom to the portfolio process over time. They administered a questionnaire to Scottish medical students over a five-year period. They found that students perceived the portfolio heightened their understanding of learning outcomes and allowed them to reflect on their work. They concluded that the downside of portfolios was the excessive amount of paper evidence required. Davis, et al.'s findings concur with those of previous research (e.g., Spicuzza, 1996) that cite portfolio assessments as excellent tools to assess professional growth and instructional goals; however, they are difficult to score, not readily comparable, problematic in terms of reliability and validity, and time consuming.

Organizational research regarding portfolio. Pavlova, Tsiachristas, Vermaeten, and Groot (2008) conducted a pilot study of portfolios at a public hospital in the Netherlands and found potential barriers to the adoption of portfolio. First, the relative nature of the portfolio matrix should be interpreted such that there was a clear rationale for including or not including specific services in the portfolio and defined cut-off points for each service. Second, the strategic importance of information systems, which can affect an effective benchmarking process and improve the reliability of the information derived. Third, there needs to be a balance between simplicity and validity of the data collection. Fourth, the organizational culture may prevent immediate acceptance of the methodology and the overall adoption of portfolio. The authors cite that organizations may take a long time to understand portfolio and recognize its value.

Disadvantages. The portfolio may not address a student's current competence as an unsupervised practitioner, unless the competencies can be demonstrated independently at about the time the student wishes to enter practice.

HYBRID PORTFOLIO EXAMINATION MODEL

Definition. What are the distinguishing characteristics of the hybrid portfolio examination? First, it is considered a performance examination which assesses candidates' skills in commonly encountered clinical situations. Second, it includes components of clinical examination administered by the Bureau/Board or regional examining entity. Third, candidates' performance is measured according to the information provided in competency evaluations conducted in the schools by clinical faculty within the predoctoral program of education. Thus, the hybrid portfolio examination involves hands-on performance evaluations of clinical skills as evaluated within the candidates' program of dental education.

The hybrid portfolio model is designed to use the structure for student evaluation that currently exists within the schools to assess minimum competence. The faculty would observe the treatment provided and evaluate candidates according to consistent criteria developed by a consensus of key faculty from all of the dental schools. Each candidate would prepare a portfolio of documentation that provides proof of completion of competency evaluations for specific procedures such as amalgam/composite restoration, endodontics, fixed prosthetics, oral diagnosis and treatment planning, periodontics, radiography, and removable prosthodontics.

The hybrid model captures the strength of the traditional portfolio process but with the advantage of being integrated within the current educational process. During visits to the dental school clinics and interviews with faculty, it was clear that the dental schools were consistent in their methodology for assessing students' clinical skills. The faculty were calibrated and re-calibrated to ensure consistency in their evaluation of the student competencies and the processes used by the dental schools for assessing competencies was very similar. In every case, minimum competency was built into the rating scales used to evaluate students in their competency examinations.

Instead of developing a portfolio and having the portfolio evaluated, the hybrid portfolio model requires documentation of the test cases (or competency cases) which are competency evaluations assembled in either a paper or electronic format. The faculty examiners would have to attest to the ratings achieved by the students. The hybrid portfolio is built and evaluated in real time. The documentation for the portfolio is submitted in paper or electronic format. Each procedure is documented by type of procedure (e.g., periodontics, endodontics, prosthodontics, restorative).

The Dental Bureau would have access to the completed hybrid portfolios in order to complete audits of the documentation. The hybrid portfolio examination could serve as an alternative pathway based upon implementation of the issues described below in the next section (Section 5: Key Findings).

Specific features. The hybrid portfolio examination model addresses the criteria for success described in Section 1.

1. Oversight maintained by the Dental Bureau/Board of California

The Dental Board/Bureau has the lawful responsibility to ensure that dentists who are licensed possess the competencies to practice safely and that responsibility cannot be delegated.

2. Built-in system for auditing the process

Upon implementation, a system must be in place to audit the alternative pathway examination. The auditing system must be part of the design requirement of the alternative pathway examination. The auditing system must be designed such that

the Bureau/Board and the evaluators have defined responsibilities to ensure that the candidates who are successful are competent.

3. Does not require additional resources from the students, schools, or the Bureau/Board of California

There are systems and procedures already in place in the dental schools. The structure of the systems and procedures are quite suitable for evaluating candidates' competence. The systems and procedures are very similar among the dental schools and, with collaboration among the schools, could create a common system.

4. Must be instituted within the current systems of student evaluation

The standards and criteria for successful performance must be fully established by the schools and consistent application of the standards and criteria would take into account the tremendous amount of work undertaken to comprehensively evaluate the candidates' clinical skills in a variety of clinical situations.

5. Must be considered an examination and meet all professional testing standards

Any method or system that evaluates performance and classifies candidates within a licensing context is considered an examination by professional testing standards and case law.

6. Meets psychometric standards, relevant to current practice, and designed for minimum competence

Because the alternative pathway is an examination, it must meet legal standards as explicated in Sections 12944, Section 139, guidelines promulgated by the California Department of Consumers Affairs, and psychometric standards for examinations set forth by the Standards for Educational and Psychological Testing (1999).

7. Is designed to cover the full continuum of competence

The alternative pathway examination must assess competencies throughout the course of treatment including oral diagnosis and treatment planning, follow-up and ongoing care, restorative (amalgam and composite restoration, fixed prosthetics), endodontics, periodontics, radiography, and removable prosthodontics.

8. Evaluation of competence is within the course of treatment plan for patients of record

The competency of the candidates must be evaluated in the course of treatment of a client. The evaluation of competence should not be in an artificial or contrived situation as may be true when the services are solely for the purpose of training.

9. Evaluators are regularly calibrated for consistent implementation of the examination

The evaluators who participate in the alternative pathway examination must be trained and calibrated to ensure that the standards and criteria do not vary across candidates. Each candidate must have a standardized examination experience.

10. Has policies and procedures that treat licensure candidates fairly and professionally, with timely and complete communication of examination logistics and results

The alternative pathway examination must be designed such that candidates are knowledgeable of standards to which they are being held accountable and the procedures that they should follow in order to maximize success.

SECTION 4: CLINICAL COMPETENCIES ASSESSED

CLINICAL COMPETENCY STATEMENTS OF EACH SCHOOL

Key faculty from relevant departments at each of the schools were interviewed regarding the clinical dimensions of practice assessed in competency examinations within their predoctoral programs. All of the schools provided copies of their competency statements that were part of the documentation submitted to evaluators from the Commission on Dental Accreditation at the time of their accreditation site visits. As expected, all of the schools included competencies which met minimum standards set forth by the Commission on Dental Accreditation for predoctoral dental education programs (2007, p. 15): "At a minimum graduates must be competent in providing oral health care with the scope of general dentistry, as defined by the school, for the child, adolescent, adult, and geriatric patient, including:

- a) Patient assessment and diagnosis;
- b) Comprehensive treatment planning;
- c) Health promotion and disease prevention;
- d) Informed consent;
- e) Anesthesia, and pain and anxiety control;
- f) Restoration of teeth;
- g) Replacement of teeth;
- h) Periodontal therapy;
- i) Pulpal therapy;
- j) Oral mucosal disorders;
- k) Hard and soft tissue surgery;
- l) Dental emergencies;
- m) Malocclusion and space management; and,
- n) Evaluation of the outcomes of treatment.

Competency statements for each school are presented in Tables 1-5 organized in according to common themes:

- a) Ethical and professional behavior;
- b) Comprehensive assessment
- c) Diagnosis, treatment planning, comprehensive treatment
- d) Medical and dental emergencies
- e) Pain and/or anxiety control
- f) Communication; and,
- g) Infection control.

Table 1 – Competency statements in California dental schools: UCSF

Dimension	Competency statement
1. Ethical and professional behavior	<ul style="list-style-type: none"> • Demonstrate ethical and professional behavior in interactions with patients and colleagues
2. Comprehensive assessment	<ul style="list-style-type: none"> • Determine need for, order, obtain, and interpret radiographs and apply oral and maxillofacial radiology safely and effectively • Evaluate medical status of patients and determine their ability to tolerate treatment
3. Diagnosis, treatment planning, comprehensive treatment	<ul style="list-style-type: none"> • Assess outcomes of comprehensive dental care in student dental practice • Develop appropriate differential diagnoses and diagnostic plans for management of oral diseases of dentition, jaw, oral mucosa, and salivary glands and treat and refer as necessary • Diagnose complete and partial edentulism and provide fixed or removable prostheses and referral as necessary • Diagnose dental disease of child and adolescent patients and provide prevention, monitoring, treatment, and referral as necessary • Diagnose endodontic disease and provide systematic evaluation, case selection, non-surgical treatment, and referral as necessary • Diagnose indications for dentoalveolar surgery and provide treatment and referral as necessary • Diagnose malocclusions and provide monitoring, treatment, and referral as necessary • Evaluate, diagnose, and develop treatment and/or referral plans appropriate to the unique characteristics of each patient • Provide adult caries management including prevention and appropriate intracoronal and extracoronal restoration
4. Medical and dental emergencies	<ul style="list-style-type: none"> • (addressed in monitoring and treatment in "Diagnosis, treatment planning, comprehensive treatment", also addressed in coursework that covers medical emergencies, local anesthesia difficulties, etc.)
5. Pain and/or anxiety control	<ul style="list-style-type: none"> • Provide appropriate level of pain and anxiety control in comprehensive dental care
6. Communication	<ul style="list-style-type: none"> • Communicate with and educate patients in ways that are both knowledgeable and effective
7. Infection control	<ul style="list-style-type: none"> • Follow universal infection control guidelines in clinical procedures

Table 2 – Competency statements in California dental schools: UOP

Dimension	Competency statement
<p>1. Ethical and professional behavior</p>	<ul style="list-style-type: none"> • Assume active responsibility for one's lifelong learning • Determine and consider patient's dental, medical, and personal situations in evaluating the range of dental theories appropriate for that individual • Develop philosophy of practice • Diagnose and treat only within one's competence • Direct services of dental auxiliaries • Evaluate oral health care delivery and payment systems in terms of impact on patients, dental practices, and profession • Evaluate scientific, lay, and trade information and claims about new products and procedures • Function as patient's primary and comprehensive oral health care provider • Participate in activities designed to improve health of communities • Participate in organized dentistry • Practice four-handed dentistry • Practice with sound business principles and legal requirements and regulations • Prepare and use accurate records • Recognize moral weakness, uncertainty, and dilemmas in dental practice in accordance with normative ethical principles • Recognize signs of abuse and neglect, and take appropriate action • Think critically, solve problems, and base dental decisions on evidence and theory • Use information technology for dental practice
<p>2. Comprehensive assessment</p>	<ul style="list-style-type: none"> • Interpret findings from complete patient work-up and present them in a standardized format • Perform a complete patient work-up, to include history and physical, laboratory, and radiographic examinations
<p>3. Diagnosis, treatment planning, comprehensive treatment</p>	<ul style="list-style-type: none"> • Address simple cosmetic concerns • Assess results of periodontal treatment • Combine diagnostic and prognostic data with science base and patient's values to form an individualized, comprehensive, sequenced treatment plan • Determine differential, provisional, and definitive diagnoses • Develop a plan incorporating dental practice management principles • Fabricate nightguard applicants to protect dentition • Involve caregivers, guardians, and other health and social service professionals in managing oral health of patients • Make referrals to dental and medical colleagues, and, in conjunction with them, manage patients' care • Modify ongoing treatment plans based on changed circumstances • Oversee long term care for patients with dental prostheses • Participate in quality assurance systems • Perform simple and surgical tooth and root extractions • Perform treatment for children in a manner that incorporates consideration of expected growth and development • Perform uncomplicated endodontic therapy on permanent teeth • Prevent and treat pulpal inflammations using direct and indirect procedures • Recognize and refer dental malocclusions and disturbances in development of dentition

Dimension	Competency statement
	<ul style="list-style-type: none"> • Recognize and treat or refer moderate to severe chronic periodontitis, aggressive periodontitis, and other conditions requiring complicated periodontal therapy • Recognize oral health care needs, refer, and ensure follow-up treatment for patients with complex disabilities and medical conditions • Restore single teeth for therapeutic reasons • Treat patients who have missing teeth with simple, fixed, removable, and implant-supported prostheses • Treat patients with special needs who do not require hospital adjunctive care as part of treatment • Treat plaque-induced gingivitis, mild chronic periodontitis, and other conditions requiring uncomplicated periodontal therapy • Treat simple, and recognize and refer complex complications related to intraoral surgical procedures • Treat simple, and refer complex oral bony abnormalities • Treat simple, and refer complex oral mucosal abnormalities • Use preventive strategies to help patients maintain and improve their oral health • Work with commercial laboratory support associated with restorative treatment
4. Medical and dental emergencies	<ul style="list-style-type: none"> • Perform CPR • Recognize and respond to medical emergencies occurring in the dental office • Recognize and respond to intraoral emergencies
5. Pain and/or anxiety control	<ul style="list-style-type: none"> • Administer and prescribe medications commonly used in dentistry, including local anesthesia, and manage their complications
6. Communication	<ul style="list-style-type: none"> • Communicate with patients, staff, and others in an empathetic and culturally competent manner • Counsel patients on lifestyle habits that affect oral health • Discuss treatment plans with patients and caregivers, including presentation of findings, alternatives, risks and benefits, and obtain informed consent from them • Establish and maintain patient rapport
7. Infection control	<ul style="list-style-type: none"> • Use current infection and hazard control measures

Table 3 – Competency statements in California dental schools: UCLA

Dimension	Competency statement
1. Ethical and professional behavior	<ul style="list-style-type: none"> • Apply ethical principles to professional practice • Evaluate scientific literature and other sources of information to make decisions about dental treatment • Understand principles necessary for developing, managing, and evaluating a general practice
2. Comprehensive assessment	<ul style="list-style-type: none"> • Interpret and correlated findings from history, clinical and radiographic examination and other diagnostic tests, and develop problem list • Perform comprehensive examination that collects patient history; chief complaint; biological, psychological, behavioral, and social information; and acquire all appropriate records needed to evaluate medical and oral condition for patients of all ages
3. Diagnosis, treatment planning, comprehensive treatment	<ul style="list-style-type: none"> • Develop comprehensive, properly sequenced treatment plan based on all diagnostic data, and develop alternative treatment plans as appropriate to achieve patient satisfaction • Diagnose developmental or acquired occlusal and/or skeletal abnormalities • Direct laboratory fabrication of restorations and prostheses and modify them, if necessary • Modify treatment plans, when indicated, based on regular evaluation, unexpected circumstances, or special patient needs • Perform preventive and restorative procedures that preserve tooth structure, prevent hard tissue disease, and promote soft tissue health • Prescribe and monitor effects of pharmacotherapeutic agents used to prevent oral diseases • Restore single defective teeth • Treat an manage patients with oral esthetic needs • Treat and manage caries • Treat and manage conditions requiring reparative surgical procedures on hard and soft tissues • Treat and manage diseases of pulpal and periapical origin • Treat and manage partial or complete edentulism • Treat and manage periodontal disease • Treat and manage temporomandibular disease and chronic orofacial pain • Treat or manage non-odontogenic oral diseases or disorders
4. Medical and dental emergencies	<ul style="list-style-type: none"> • Prevent, treat, and manage dental and medical emergency situations encountered in the practice of general dentistry
5. Pain and/or anxiety control	<ul style="list-style-type: none"> • Treat and manage acute orofacial discomfort and psychological distress
6. Communication	<ul style="list-style-type: none"> • Demonstrate ability to communicate professional knowledge verbally and in writing • Discuss findings, diagnosis, and treatment options with the patient or parent/guardian and obtain informed consent for delivery of mutually accepted treatment • Educate patients concerning etiology and prevention of oral disease and encourage them to assume responsibility for their oral health
7. Infection control	<ul style="list-style-type: none"> • Understand what is necessary to protect, promote and restore oral health in his/her community

Table 4 – Competency statements in California dental schools: USC

Dimension	Competency statement
1. Ethical and professional behavior	<ul style="list-style-type: none"> • Apply ethical, legal, and regulatory concepts and principles to the provision and/or support of oral health care services • Improve oral health of individuals from diverse, disadvantaged, and "at risk" populations through diagnosis, treatment, and education in a variety of practice settings • Provide empathetic care for all patients without discrimination • Regularly assess one's knowledge and skills, and seek additional information to correct deficiencies and enhance performance • Understand principles, regulations and procedures necessary to manage and lead a contemporary dental practice
2. Comprehensive assessment	<ul style="list-style-type: none"> • Assess patient goals, values and concerns to establish rapport, guide patient care, maintain oral health, and monitor therapeutic outcomes • Perform comprehensive diagnostic evaluation based on application of scientific principles and current literature, with consultations as appropriate • Recognize normal range of clinical findings and significant deviations that reflect oral pathology and require monitoring, treatment, or management • Recognize oral manifestations of systemic disorders, as well as systematic complications of oral disease, and seeking consultations as needed
3. Diagnosis, treatment planning, comprehensive treatment	<ul style="list-style-type: none"> • Combine clinical and supporting data, with individual patient's goals and values, and integrate multiple disciplines into individual, comprehensive, sequenced treatment plans with appropriate diagnoses, prognoses, and treatment alternatives • Recognize indications for oral surgical procedures, treating uncomplicated conditions, and referring complicated surgical procedures • Recognize needs for orthodontic treatment, performing uncomplicated procedures and referring complicated ones • Recognize patients with chronic orofacial pain and dysfunction (including temporomandibular joint disorders), treating uncomplicated conditions, and referring complicated surgical procedures • Recognize periodontal disease, treating uncomplicated conditions, and referring complicated periodontal procedures • Recognize pulpal and periapical disease, treating uncomplicated conditions, and referring complicated endodontic procedures • Restore edentulous spaces to optimal form, function, and esthetics using fixed partial dentures, removable partial dentures, complete dentures, or implant supported restorations • Restore single defective teeth to optimal form, function, and esthetics using direct and indirect restorations • Understand differences between various models of oral health care delivery
4. Medical and dental emergencies	<ul style="list-style-type: none"> • Anticipate, detect, and provide initial treatment and follow-up management for complications and medical emergencies that may occur during or as a result of dental treatment • Select and administer or prescribe pharmacological agents in the treatment of dental patients
5. Pain and/or anxiety control	<ul style="list-style-type: none"> • Manage patients with pain or anxiety using non-pharmacological methods • Recognize and manage pain, hemorrhage, trauma, and infection of the orofacial complex
6. Communication	<ul style="list-style-type: none"> • Communicate effectively, both orally and in writing, with colleagues, practitioners, staff, patients, and the public • Provide patient education and preventive procedures to maximize oral health
7. Infection control	<ul style="list-style-type: none"> • Implement and monitor infection control and environmental

Table 5 – Competency statements in California dental schools: LLU

Dimension	Competency statement
1. Ethical and professional behavior	<ul style="list-style-type: none"> • Apply ethical principles to professional practice and personal life • Function as a leader in a multicultural work environment and manage a diverse patient population • Perform clinical decision making that is supported by foundational knowledge and evidence-based rationales • Understand basic principles important in developing, managing and evaluating a general dental practice • Understand importance of maintaining physical, emotional, financial, and spiritual health in one's personal life • Conduct comprehensive examination to evaluate general and oral health of patients of all ages within the scope of general dentistry
2. Comprehensive assessment	<ul style="list-style-type: none"> • Analyze continuously the outcomes of patient treatment to improve treatment
3. Diagnosis, treatment planning, comprehensive treatment	<ul style="list-style-type: none"> • Assess and manage maxillary and mandibular skeletal/dental discrepancies, including space maintenance, as represented in early, mixed and permanent dentitions • Determine diagnosis by interpreting and correlating findings from examination • Develop a comprehensive treatment plan and alternatives • Evaluate and manage diseases of pulpal origin and subsequent periradicular disease • Evaluate and manage treatment of periodontal diseases • Manage restoration of individual teeth and replacement of missing teeth for proper form, function, and esthetics • Promote, improve, and maintain oral health in patient-centered and community settings • Provide basic surgical care • Recognize and manage pathologic changes in tissues of the oral cavity and head and neck area • Recognize and manage problems related to occlusal stability
4. Medical and dental emergencies	<ul style="list-style-type: none"> • Manage dental emergencies and medical emergencies that may be encountered in dental practice
5. Pain and/or anxiety control	<ul style="list-style-type: none"> • Manage pain and anxiety with pharmacologic and non-pharmacologic methods
6. Communication	<ul style="list-style-type: none"> • Apply behavioral and communication skills in the provision of patient care
7. Infection control	<ul style="list-style-type: none"> • Provide appropriate preventive and/or treatment regimens for patients with various dental carious states using appropriate medical and surgical treatments

CLINICAL COMPETENCIES TESTED

Rating scales. All of the schools had slightly different formats, but similar rating criteria for their competency examinations. Below are examples of competencies tested in periodontics, indirect restoration, composite restoration, and endodontics (Tables 6-9). While the exact wording of the criteria and the structure of each school's rating system is not identical, the minimum criteria address the same concepts.

Table 6 – Examples of rating scales for periodontic scaling/root planing

	Examples of minimum criteria	Rating system
UCSF	<ul style="list-style-type: none"> Distances from CEJ to gingival margin within 1 mm Furcation measurements accurate Mobility measurements accurate 	<ul style="list-style-type: none"> P/F grading
UOP	<ul style="list-style-type: none"> Complete periodontal charting (pocket depths) Pocket probing depths satisfactory Mobility and furcations satisfactory 	<ul style="list-style-type: none"> Grade of 5-7 is passing (scale of 1-9)
UCLA	<ul style="list-style-type: none"> Assess and record pocket depths Assess and record furcation invasions Assess and record tooth mobility 	<ul style="list-style-type: none"> P/F grading
USC	<ul style="list-style-type: none"> Charting measurements do not vary more than 1 mm from faculty's measurements Recession, furcation involvement, mobility, plaque and calculus indices recorded 	<ul style="list-style-type: none"> ≥ 75% out of 100
LLU	<ul style="list-style-type: none"> Subgingival calculus correctly identified and properly removed Charting is accurate and complete 	<ul style="list-style-type: none"> ≥ 70 points and above is passing (100 points possible)

Table 7 – Examples of rating scales for indirect restoration

	Examples of minimum criteria	Rating system
UCSF	<ul style="list-style-type: none"> Caries removed Occlusal reduction sufficient Gingival depth/margin position sufficient Axial contours adequate (no over contours) Soft tissue has slight laceration or no laceration 	<ul style="list-style-type: none"> Satisfactory grade (8) (scale of 1-10)
UOP	<ul style="list-style-type: none"> Occlusal reduction uniform (1.5 to 1.5 mm) Supragingival chamfer finish line .5-1 mm Supragingival shoulder finish line 0.5 – 1 mm Slight soft tissue damage or no damage (untouched) 	<ul style="list-style-type: none"> Minor, slight, or moderate is passing, no deductions for uncorrectable or significant errors
UCLA	<ul style="list-style-type: none"> Occlusal reduction with minor, slight, or moderate deviations Axial reduction with with minor, slight, or moderate deviations Draw and taper with minor, slight, or moderate deviations Contours with minor, slight, or moderate deviations 	<ul style="list-style-type: none"> Minor, slight, or moderate quality is passing
USC	<ul style="list-style-type: none"> Caries removed Axial walls are tapered for maximum retention Finish lines are smooth and free of irregularities 	<ul style="list-style-type: none"> Grade of S is passing
LLU	<ul style="list-style-type: none"> Caries completely removed Margins/finish line of prep are appropriately placed, smooth, well defined and uniform or have slight/moderate deviations Slight or moderate soft tissue trauma or no trauma 	<ul style="list-style-type: none"> Grade of Satisfactory is passing

Table 8 – Examples of rating scales for composite restoration

	Examples of minimum criteria	Rating system
UCSF	<ul style="list-style-type: none"> • Caries removed • Enamel surface beveled sufficiently or with slight under- or overextensions • Contours reproduced appropriately or with slight deviations • Slight, reversible soft tissue trauma or no trauma 	<ul style="list-style-type: none"> • Satisfactory grade (8) (scale of 1-10)
UOP	<ul style="list-style-type: none"> • Caries removed • Existing restorative material removed • Surface is smooth and polished to smoothness of adjacent tooth structure, not rough to explorer • Normal occlusion present • Minor pits or voids can be repaired 	<ul style="list-style-type: none"> • Satisfactory rating is passing
UCLA	<ul style="list-style-type: none"> • Caries removal • Occlusal anatomy of composite has minor, slight, or moderate deviations • Outline (shape/dimensions) with minor, slight, or moderate deviations • Surface finish with minor, slight, or moderate deviations • Facial contours with minor, slight, or moderate deviations 	<ul style="list-style-type: none"> • Minor, slight, or moderate quality is passing
USC	<ul style="list-style-type: none"> • Outline includes enamel decalcification contiguous with area of caries, restoration or tooth structure, overextensions less than .5 mm • Sufficient depth to identify and remove caries or existing restorative material or less than .25 mm of health dentin or enamel • Finish on enamel margins optimal or within slight deviation of optimal • Surface is free of pits or voids, or minimal deviations from optimal 	<ul style="list-style-type: none"> • Grade of S is passing
LLU	<ul style="list-style-type: none"> • Outline and extension appropriate with all decalcification, caries, and fissured grooves removed • Margins appropriate, no excess or deficiency • Finish is smooth with no pits, voids or irregularities or with slight/moderate surface pitting, voids or irregularities • No damage to hard or soft tissue 	<ul style="list-style-type: none"> • Minor, slight, or moderate quality is passing

Table 9 – Examples of rating scales for endodontic

	Examples of minimum criteria	Rating system
UCSF	<ul style="list-style-type: none"> • Canal shape is appropriate • Pulp chambers and canals visible on radiograph • Canal appropriately obturated (fill, density, shape) 	<ul style="list-style-type: none"> • Grade of 3-4 is passing (scale of 1-8)
UOP	<ul style="list-style-type: none"> • Access outline/dentin preparation satisfactory • Last apical file goes to full working length • Canal vertically compacted • Canal obturated to working length without voids 	<ul style="list-style-type: none"> • Grade of 5-7 is passing (scale of 1-9)
UCLA	<ul style="list-style-type: none"> • Access cavity adequate • Canal prep and master apical file adequate • Master cone fit adequate • Initial condensation adequate 	<ul style="list-style-type: none"> • Grade of Adequate is passing (scale is excellent, adequate, inadequate, very poor)
USC	<ul style="list-style-type: none"> • Caries completely removed • Access acceptable • Canal orifice flared • Gutta percha not overfilled 	<ul style="list-style-type: none"> • Grade of S is passing
LLU	<ul style="list-style-type: none"> • Caries completely removed • Adequate canal flare • Correct working length • Root canal space completely obturated 	<ul style="list-style-type: none"> • P/F grading on each criteria

Competencies tested. Table 10 summarizes the competencies assessed in the five dental schools tested. Since each competency examination was timed, practice management was implied through all the schools. Details of the competency examinations are presented in Tables 11-16.

UCSF had separate competency examinations for instrument identification and instrument sharpening, caries risk assessment and caries management, emergency, medical/dental history taking, pediatric, and infection control; however, these competencies were embedded within the competency examinations of in other schools.

UOP did not provide a competency examination for oral diagnosis and treatment planning, oral surgery, or, prosthodontics, however, much of this information was included throughout the students' clinical experiences to medically manage complex patients. LLU did not have a competency examination for oral surgery, although the topic was thoroughly covered in clinical experiences.

Radiography was typically embedded within various competency examinations. At UOP, students' radiographic competence was tested in endodontic and periodontic competency examinations. At UCLA, radiographic competence was tested in preventive, fixed removable, and endodontic competency examinations.

It should be noted that the endodontics department at UCLA has an established system in place that incorporates course examinations and competency examinations into a portfolio.

Table 10 – Summary of competencies assessed

Competency	UCSF	UOP ¹	UCLA ²	USC	LLU
1. Amalgam and composite restoration	X	X	X	X	X
2. Endodontics	X	X	X	X	X
3. Fixed prosthetics	X	X	X	X	X
4. Oral diagnosis and treatment planning	X	--	X	X	X
5. Oral surgery	X	--	X	X	--
6. Periodontics	X	X	X	X	X
7. Radiography	X	--	--	X	X
8. Removable prosthodontics	X	--	X	X	X

¹ Radiographic technique specifically assessed in as part of endodontic and peridental competencies.

² Radiographic technique specifically assessed in preventive dentistry, fixed removable, and endodontic competencies. Endodontic competency examinations were part of an existing portfolio system.

Table 11 – Competency examinations at UCSF

Type	Competency assessed
1. Amalgam and composite restoration	(1) Class I amalgam (2) Class II interproximal posterior amalgam (3) Class I composite or preventive resin restoration (4) Class II interproximal posterior composite (5) Interproximal anterior composite (6) Class V smooth surface composite/glass ionomer, or amalgam
2. Endodontics	(1) Single-rooted case (2) Multi-rooted case
3. Fixed prosthetics	Cast restoration
4. Oral diagnosis and treatment planning	(1) OSCE stations; Slides of clinical findings from charts, radiographs, and or pictures (2) Develop treatment plan on a patient including phasing of care, sequencing, continuity of care (3) Assess patients' risk for caries as measured by bacterial testing, saliva flow rates, risk factors from patient questionnaire (4) Review of chart and health history, radiography, evaluation of soft tissue, occlusion, caries risk assessment, treatment plan, restorative plan (pediatric case) (5) Caries risk management
5. Oral surgery	Perform hard and soft tissue surgery, e.g., extraction, including medical history, diagnostic work-up, anesthetic technique, patient management
6. Periodontics	Periodontal scaling and root planning, calculus detection
7. Radiography	(1) Radiographs evaluated in terms of presence of technical errors, anatomic variations, patient reaction (2) Film layout for mounting
8. Removable prosthodontics	Complete denture procedure including master impression, occlusal records, wax try-in

Table 12 – Competency examinations at UOP

Type	Competency assessed
1. Amalgam and composite restoration	(1) Final impression (2) Direct restorative – case management, preparation, restoration
2. Endodontics	(1) Endodontic radiographic technique - anterior or posterior tooth (2) Coronal access - anterior (3) Coronal access - posterior (4) Cleaning and shaping single canal – anterior or posterior (5) Obturation, single canal – anterior or posterior (included in coursework and clinical experiences to medically manage complex patients)
3. Fixed prosthetics	(Performed within various competency examinations)
4. Oral diagnosis and treatment planning	
5. Oral surgery	(not specifically addressed, students perform simple extractions in their training)
6. Periodontics	(1) Oral diagnosis and treatment planning including radiographic interpretation, periodontal charting, occlusal analysis, plaque index, diagnosis, etiology, prognosis, tentative treatment plan (2) Periodontal re-evaluation (3) Calculus detection, scaling and root planning (4) Periodontal instrument sharpening (5) Root planning and diagnosis (Performed within various competency examinations)
7. Radiography	(included in the coursework and clinical experiences to manage medically complex patients)
8. Removable prosthodontics	

Table 13 -- Competency examinations at UCLA

Type	Competency assessed
1. Amalgam and composite restoration	<p>(1) Restorative treatment planning (set of radiographs and patient scenarios)</p> <p>(2) Troubleshooting and basic knowledge (radiographs)</p> <p>(3) Diagnosis and treatment (radiographs and tooth on typodont) including full gold crown, mesial decay, occlusal restoration, mesioocclusal restoration, anterior periapical, distoocclusal, PFM crown, root canal</p> <p>(4) Anatomy, contacts, margin integrity and surface finish of restorations</p> <p>Portfolio based competency evaluation including documentation of endodontic diagnosis and treatment planning, radiographic technique, endodontic technique, canal preparation, obturation, provisionalization, infection control</p>
2. Endodontics	<p>(1) Foundation restoration</p> <p>(2) Full gold veneer restoration including cementation</p> <p>(3) Gold partial veneer or inlay</p> <p>(4) PFM restoration including cementation</p> <p>(5) Bonded ceramic restoration including cementation</p>
3. Fixed prosthetics	<p>(1) Fast track treatment planning includes simple to intermediate periodontal needs, operative</p> <p>(2) Advanced treatment planning clinic includes bridges/partials, TMD, significant attrition, more than four fixed units, non-ideal occlusion</p> <p>(3) Oral diagnosis including review of systems, dental history psychosocial history, family medical history</p> <p>(4) Clinical evaluation</p> <p>(5) Head and neck examination</p>
4. Oral diagnosis and treatment planning	<p>(not specifically addressed)</p>
5. Oral surgery	<p>(1) Periodontal diagnosis and treatment plan</p> <p>(2) Periodontal instrumentation</p> <p>(3) Re-evaluation of Phase I therapy</p> <p>(4) Periodontal surgery</p> <p>(addressed in various competency examinations)</p>
6. Radiography	<p>Refine/rebase treatment/removable partials on approved RPD designs from oral diagnosis and treatment planning</p>
7. Removable prosthodontics	
8. Removable prosthodontics	

Table 14 – Competency examinations at USC

Type	Competency assessed
1. Amalgam and composite restoration	(1) Amalgam restorations (patient or extracted tooth) (2) Composite restorations including Class II and Class III preparations, impressions, provisionals
2. Endodontics	(1) Endodontic bench examination (one molar access in a typodont) (2) Endodontic bench examination (two teeth in a typodont)
3. Fixed prosthetics	(1) Indirect cast restoration (preparation, impression, provisional) (2) Cementation examination
4. Oral diagnosis and treatment planning	(1) Diagnosis and treatment planning (2) Simulated patient (OSCE) examination (3) Special patients evaluation
5. Oral surgery	Management of medical emergency scenario, clinical patient evaluations and treatment including consultation, exodontia/minor dentoalveolar surgery, post-op management
6. Periodontics	(1) Periodontal diagnosis and treatment planning (2) Periodontic scaling and root planing (3) Use of ultrasonic instrumentation for scaling
7. Radiography	(1) Radiographic technique (2) Radiographic interpretation
8. Removable prosthodontics	Treatment/interim partial dentures including prognostic aids, RPD design

Table 15 – Competency examinations at LLU

Type	Competency assessed
1. Amalgam and composite restoration	(1) Class II amalgam (2) Class II composite (3) Class II and IV composite
2. Endodontics	(1) Diagnosis (2) Pre-treatment (3) Access (4) Canal preparation (5) Fitting master cone (6) Obturation (6) Post-treatment evaluation
3. Fixed prosthetics	(1) All ceramic anterior preparation – manikin (OSCE) (2) Indirect veneer – manikin (OSCE) (3) Ceramic veneer – manikin (OSCE)
4. Oral diagnosis and treatment planning	(1) Comprehensive oral evaluation assessment including professional and general evaluation, documentation data collection, extra-dental examination, dental examination, caries diagnosis and treatment plan, diagnosis, treatment plan and alternatives (2) Oral hygiene instruction with manikin (3) Oral prophylaxis on another student (not specifically addressed in competency examinations)
5. Oral surgery	(1) Three oral health care examinations including periodontal risk and disease assessment
6. Periodontics	(2) Multiple scaling and root planning examinations including pre-treatment calculus, post-treatment calculus (3) Periodontal instrument sharpening (OSCE) (4) Periodontal hand instrumentation on a typodont (OSCE)
7. Radiography	(1) Radiology FMX (2) Radiology interpretation
8. Removable prosthodontics	(1) Full partial denture – manikin (OSCE) (2) Complete denture including casts, vertical dimension of occlusion, occlusion, festooning, neatness

SECTION 5: KEY FINDINGS FROM INTERVIEWS/SITE VISITS

Importance of difficulty rather than numbers of procedures performed. The deans and faculty at the dental schools addressed the idea of numbers of procedures performed as a prerequisite for any alternative pathway. They indicated that because treatment for each patient is unique, the difficulty of the procedure was the overriding factor in determining competence. There are well-specified criteria, such as the American Association of Endodontics Guidelines, for assigning level of case difficulty (see Appendix A). Thus, the number of procedures performed was not relevant to the quality of services provided.

Challis (2001) addresses this very issue in her research on the use of portfolios for assessment purposes. She states that the trick to resolving the tensions in designing a portfolio is to engage learners in the process of development and only assesses those dimensions which are not better assessed in another way (p. 438). There is no purpose served in insisting on a review of already assessed material, or, on certain items, if skills and knowledge are not necessarily demonstrated.

Concern regarding resources. The deans and faculty at the dental schools also indicated that the focus of the alternative pathway could be thought of in terms of an accreditation model, in which there are requirements that need to be fulfilled prior to an audit, rather than a set of procedures for which schools would be required to expend additional resources and faculty effort to comply with new procedures. There was great concern that considerable effort has already been expended to incorporate existing procedures around the clinical curriculum; consequently, any new procedure cannot take additional resources and create additional demands on the faculty.

Concern about similarity of competencies assessed on simulated vs. real patients. Some deans and faculty expressed a concern regarding the use of simulated (manikin) patients because candidates would be treating real, not simulated, patients in actual practice whose cases span a continuum of care. They were concerned that candidates could learn to achieve competency with simulated patients without being able to perform the same skills competently on an actual patient and manage that patient's condition after the procedure was performed.

Use of designated examiners. One school (LLU) indicated that only full-time faculty who understood the examination process were allowed to function as examiners for competency examinations. They also indicated that it was not uncommon for faculty from nearby schools to familiarize themselves with the rating system and participate in competency examinations as examiners.

Dissimilarity of clinic management software. Most of the patient data is maintained in sophisticated clinic management software to maintain a database of patient records; however, some patient charts are still in paper form. All of the schools are in the process of completing a transition to paperless charting with the idea that records created prior to a specific year would not be converted to electronic media. The type of database software used by each school was not universal for all of the schools. The clinic management software used by UCSF and USC is AxiUm. UOP uses Denticon, LLU used General Systems Design with Chairside Data Entry. UCLA uses Software of Excellence, Int.

Confidentiality of records. Full documentation, which contains confidential patient information from each school's clinic management software, is not readily available in redacted form.

Similarity of content in competency examinations. Since each Bureau-approved school (University of California, San Francisco – UCSF; University of the Pacific – UOP; University of California, Los Angeles – UCLA; University of Southern California – USC; and Loma Linda University - LLU) was accredited by the Commission on Dental Education, coursework and competency examinations were similar in content but implemented in ways that were unique to the school and its patient populations. Two schools, USC and LLU, specifically mentioned in their clinical competency statements the notion of diversity and at risk patient populations.

Scheduling of individual competency examinations. Each school required students to perform numerous examinations on actual patients in their clinical experiences; however, competency examinations were scheduled on demand by students when they felt that they were ready to be examined without intervention or guidance from faculty. In all cases, faculty were given the authority to stop any competency examination from proceeding if there was any procedure that would harm or endanger the subject patient. All competency examinations were performed during the course of treatment for which there was complete documentation of a patient of record, e.g., clinical work-up, diagnosis, treatment plan.

Calibration of examiners. At all schools, faculty who served as examiners for student competency examinations were provided extensive training and calibration prior to performing duties as an examiner. Faculty were required to access hands-on material, detailed slide presentations (PowerPoint), sample cases, and sample documentation each term and participate in calibration sessions to hone their skills. Prior to participating in actual grading of competency examinations, newer faculty were mentored by experienced faculty.

At all the schools, two examiners must concur on failing grades, and if there is disagreement between the two examiners, a third examiner was asked to grade the student. One school specifically mentioned that examiners were designated full-time faculty who were familiar with the grading criteria and the logistics of competency examinations. When faculty were asked if they could remain objective during grading

of students that they knew, they clearly indicated that they understood the difference between being an examiner and being a supportive mentor.

Best practices. The best practice (Albino, et al, 2008, p. 1425; Swanick & Chana, 2005) is to rely on multiple data sources, rather than single sources. These authors describe this practice as “triangulation.” Triangulation involves three elements: *process* (human factors such as communication, organization, ethical behavior), *product* (outcomes of patient care), and *procedure* (technical skills necessary to provide patient care). These data sources can be derived from methods such as longitudinal observations, portfolios, and case-based multiple-choice questions.

SECTION 6: OTHER FINDINGS

OCCUPATIONAL ANALYSIS AND EXISTING CLINICAL EXAMINATIONS

The occupational analysis outlines fifteen content areas of practice which appear to focus on topical content rather than underlying processes such as oral diagnosis and treatment planning. Major content was covered in the occupational analysis; however, some areas were given the same level of importance as others when they were not generally considered major areas of subject matter to be assessed.

The 15 content areas cited in the occupational analysis were described as follows:

- I. Evaluation – Conduct medical and dental evaluation to develop comprehensive dental treatment plan.
- II. Endodontics – Diagnose patient's endodontic condition, develop a treatment plan and perform endodontic therapy.
- III. Indirect restoration – Diagnose patient's restorative needs, develop a treatment plan and perform an indirect restoration.
- IV. Direct restoration - Diagnose patient's restorative needs, develop a treatment plan and perform a direct restoration.
- V. Prophylaxis – Perform prophylactic procedures and provide oral hygiene instructions to patients.
- VI. Periodontics - Diagnose patient's periodontal needs, develop a treatment plan and perform periodontal therapy.
- VII. Fixed partial denture - Diagnose patient's restorative needs, develop a treatment plan and perform a fixed partial denture.
- VIII. Removable partial denture - Diagnose patient's restorative needs, develop a treatment plan and fabricate a removable partial denture.
- IX. Complete denture - Diagnose patient's restorative needs, develop a treatment plan and fabricate a complete denture.
- X. Oral surgery - Diagnose patient's oral condition, develop a treatment plan and perform oral surgical procedures.
- XI. Teeth whitening - Perform teeth whitening procedures on a patient.
- XII. Splint therapy – Determine patient's need for splint therapy and perform splint therapy procedures.
- XIII. Safety and sanitation – Prevent injury and spread of diseases in dental services by following Board regulations on safety, sanitation, and sterilization.
- XIV. Ethics – Comply with ethical standards for dentistry, including scope of practice and professional conduct.

- XV. Law – Comply with legal obligations, including patient confidentiality, professional conduct, and information management.

Existing clinical examinations used in California did not appear to have a direct relationship to the content areas in the occupational analysis. For example, one area, diagnosis, should have been designated as an area of its own, or included as part of oral diagnosis and treatment planning, which should be a standard part of the comprehensive assessment, diagnosis, and treatment planning process. There are tasks addressing diagnosis included in the analysis, however, the tasks marginalize diagnosis of the patient as a holistic entity who has a medical, dental, pharmacological, and psychosocial history that may impact treatment.

Some areas are not the primary focus of the practice of general dentistry and distort the major areas of subject matter in general dentistry. For example, tooth whitening is a part of cosmetic dentistry. Splint therapy focuses on specific types of removable orthotic appliances. Prophylaxis is limited in this analysis to conventional or ultrasonic scaling, fluoride, sealants and oral hygiene instruction, and could be considered part of periodontics (e.g., scaling).

Other content areas were part of a larger set of procedures. For example, fixed partial denture, removable partial denture, and complete denture are considered prosthodontic procedures; and indirect and direct restoration are considered restorative procedures. Likewise, procedures specified in evaluation are part of comprehensive oral assessment, and, oral diagnosis and treatment planning. Comprehensive assessment and many aspects of diagnosis, treatment planning, or aftercare are embedded within multiple areas such as evaluation, endodontics, indirect restoration, direct restoration, periodontics, fixed partial denture, removable partial denture, complete denture, oral surgery, and splint therapy.

REQUIREMENTS FOR LICENSURE IN THE U.S. AND CANADA

In their 2001 review of dental education and licensure, the Council on Dental Education of the American Dental Association (ADA) compared practices for initial dental licensure in the United States and Canada. Their findings indicate that initial licensure in the United States and Canada are very similar; however, Canada relies on the use of the OSCE, which requires candidates to answer multiple-choice questions about radiographs, case histories, and/or models in a series of stations. In the OSCE, simulated patients (manikins) rather than actual patients are used as subjects for examination procedures.

Table 16 – Comparison of practices in U. S. and Canada for initial licensure

Requirement	United States	Canada
Graduation from an accredited program	Yes; program is accredited by the ADA Commission on Dental Accreditation	Yes; program is accredited by the Commission on Dental Accreditation of Canada
Written examination	Yes: National Dental Board Examinations (NDBE) Parts I and II	Yes; National Dental Examining Board of Canada Written Examination (NDEB)
Clinical examination	<ul style="list-style-type: none"> • Regionally administered clinical examinations (Central Regional Testing Services; Northeast Regional Examining Board, Southern Regional Testing Agency, Western Regional Examining Board) offered once to multiple times, depending on the testing agency • 10 states (CA, DE, FL, HI, IN, LA, MS, NC, NV plus Puerto Rico and the Virgin Islands) offer state administered examinations • Each state determines which clinical examination results are accepted for the purpose of licensure • All states require completion of both written and clinical examinations before being eligible for licensure • Some states also require additional criteria such as proof of malpractice insurance, certification in Basic Life Support, or a jurisprudence examination 	<ul style="list-style-type: none"> • OSCE offered three times a year • Quebec requires an NDEB certificate or a provincial examination. • Some provinces require completion of an ethics examination

NUMBER OF GRADUATES PER YEAR

Each of the five schools graduates 100-140 students each year. Thus, there may be as many as 700 students graduating from the five Bureau-approved schools, and, more students would be graduating every year once the newly formed sixth dental school is underway. The number of graduates would have a great impact on the feasibility of any alternative pathway to initial licensure.

SECTION 7: CONCLUSIONS

Several conclusions can be drawn from the observations and information provided in interviews and documentation obtained from the five Bureau-approved dental schools.

1. The hybrid portfolio examination model satisfies the criteria identified by the California Dental Association, the Dental Bureau of California, and the psychometric consultants. Minimum competence would be built into standardized rating scales and extensive calibration and re-calibration of the examiners would address psychometric issues such as reliability and validity.
2. The traditional portfolio is not feasible as originally described by the Bureau. However, if there were no specific numbers of procedures and the portfolio process is integrated into the predoctoral curriculum, it would be feasible. The process should incorporate sensitivities to confidentiality of patient records, diversity of clinic management software used, and difficulty of cases used for competency examinations. The actual logistics would need to be vetted by all the schools in terms of what documents should be provided and how faculty were designated as examiners.
3. Psychometric issues of validity and reliability can still be addressed through careful specification of standards, criteria and scoring guides, and thorough calibration and training of designated examiners. The Bureau could have the responsibility for making final approval of portfolio information, conducting site visits, and performing periodic audits of detailed portfolio documentation.
4. The OSCE and the CIF are not the best venues for licensure examinations because there are more authentic means available for assessing candidates' competence (actual patients). Therefore, the OSCE or the CIF are well suited for preclinical training but not as a licensure examination.
5. The most noticeable strength of the five predoctoral training programs was the thoroughness of their clinical training and the commitment of their faculty to the students. The faculty understood the distinction between their role as a mentor and as an examiner in that there was no intervention during any competency examination unless the patient was in danger of being harmed.
6. All five predoctoral training programs had extensive training programs to calibrate their examiners. Training included detailed PowerPoint presentations, trial grading sessions, and training and mentorship of new examiners with experienced examiners.

7. There are rating systems in place at each of the five schools which evaluate the same competencies; however, the rating systems for key competencies would require standardization across schools in order to interpret the scores derived from the competency examinations on a common metric. Calibration to these rating systems would need to be implemented as well.
8. The involvement of independent parties to make decisions about minimum competence could ensure fairness of ratings if faculty from other departments within the school and/or faculty from other schools are used in the rating process.
9. There are important advantages of using actual patients of record within the schools instead of simulated (manikin) patients. First, procedures are performed as part of treatment thereby eliminating circumstances fostering commercial procurement of patients, particularly the cost of such patients. Second, the safety and protection of patients is ensured because procedures are performed in the course of treatment. Third, candidates would be treated similarly at all of the dental schools in a manner that allows communication of examination logistics and results.

SECTION 8: REFERENCES

- Accreditation standards for dental education programs. (2007). Chicago, IL: Commission on Dental Accreditation, American Dental Association.
- Albino, J. E. N., Neumann, G. A., Kramer, S. C., Andrieu, S. C., Henson, L., Horn, B., & Hendricson, W. D. (2008) Assessing dental students' competence: Best practice recommendations in the performance assessment literatures and investigation of current practices in predoctoral education. *Journal of Dental Education*, 72, 1405-1435.
- Dental boards and licensure: Information for the new graduate. (2008). Chicago, IL: American Dental Association, <http://www.modental.org/docs/professionals/students/adahandbooknewgrad.pdf>.
- Dental education and licensure in the United States and Canada: A comparison. (2001). Chicago, IL. American Dental Association, Council on Dental Education and Licensure.
- CDA Licensure: Policy statement. (2008). California Dental Association. Retrieved January 2, 2009 from <http://www.cda.org/popup/Licensure>.
- Candidate handbook: California dental licensure examination (2008). Sacramento, CA: Dental Bureau of California.
- Case difficulty assessment form and guidelines. (2008). American Association of Endodontics. <http://www.aae.org/dentalpro/EducationalResources/guidelines.htm>.
- Challis, M. (2001). Portfolios and assessment: Meeting the challenge. *Medical Teacher*. 23(5), 437-440.
- Chambers, D. W. (2004a). The case against one-shot testing for initial dental licensure. *Journal of the California Dental Association*, 132 (3), 243-252.
- Chambers, D. W. (2004b). Portfolios for determining initial licensure competency. *Journal of the American Dental Association*, 135, 173-184.
- Davis, M. H., Ponnampereuma, G. G., & Ker, J. S. (2009). Student perceptions of a portfolio assessment process. *Medical Education*, 43, 89-98.

- Davis, M. H., & Ponnamaperuma, G. G. (2005). Portfolio assessment. *Journal of Veterinary Medical Education*, 332(3), 279-284.
- Department of Consumer Affairs. (2005). Validation report: Occupational analysis of general dentists. Sacramento, CA: Office of Examination Resources, Author.
- Driessen, E., van der Vleuten, C., Schuwirth, L., van Tartwijk, J., & Vermunt, J. (2005). The use of qualitative research criteria for portfolio assessment as an alternative to reliability evaluation: A case study. *Medical Education*, 39(2), 214-220.
- Elliott, C. (2008, May 1). The debate on the elimination of live patients in clinical licensure examinations The Free Library. (2008). Retrieved January 05, 2009 from [http://www.thefreelibrary.com/The debate on the elimination of live patients in clinical licensure...-a0179977425](http://www.thefreelibrary.com/The+debate+on+the+elimination+of+live+patients+in+clinical+licensure...-a0179977425)
- Friedman Ben-David, M., Davis, M., Harden, R., Howie, P., Ker, J., & Pippard, M. (2001). AMEE Guide No. 24. Portfolios as a method of student assessment. *Medical Teacher*, 23(6), 535-551.
- Hammond, D. & Buckendahl, C. W., (2006). Point/Counterpoint: Do portfolio assessments have a place in dental licensure?: No portfolio assessment should not be used in dental licensure. *Journal of the American Dental Association*, 137, 30-41.
- Jarvis, R. M., O'Sullivan, P. S., McClain, T., & Clardy, J. A. (2004). Can one portfolio measure the six ACGME general competencies? *Academic Psychiatry*, 28(3), 190-196.
- Lettus, M. K., Moessner, P. H., & Dooley, L. (2001). The clinical portfolio as an assessment tool. *Nursing Administration Quarterly*, 25(2), 74-79.
- Loma Linda University School of Dentistry: Competencies for the new dental graduate. (2008). Loma Linda, CA: Author.
- McMullan, M. (2003). Portfolios and assessment of competence: A review of the literature. *Journal of Advanced Nursing*, 41(3), 283-294.
- Patterson, F., Ferguson, E. & Thomas, S. (2008). Using job analysis to identify core and specific competencies: Implications for selection and recruitment. *Medical Education*, 42, 1195-1204.
- Pavlova, M., Tsiachristas, A., Vermaeeten, G., & Groot, W. (2008). Retrieved January 1, 2009 from *International Journal of Health Planning and Management*. (Wiley InterScience, www.interscience.wiley.com).
- Proposed clinical portfolio. (2007). Sacramento, CA: Dental Bureau of California.

- Ranney, R. R. & Hambleton, R. (2006). Point/Counterpoint: Do portfolio assessments have a place in dental licensure?: Yes, portfolio assessments can be used successfully in dental licensure. *Journal of the American Dental Association*, 137, 30-41.
- Ranney, R. R., Haden, N. K., Weaver, R. W., & Valachovic, R. W. (2003). A survey of deans and ADA activities on dental licensure issues. *Journal of Dental Education*, 67 (10), 1149-1160.
- Reckase, M. D. (1995). Portfolio assessment: A theoretical estimate of score reliability. *Educational Measurement: Issues and Practice*, 14(1), 12-14.
- Spicuzza, F. J. An evaluation of portfolio assessment: A student perspective. *Assessment Update*, 10(2), 4-13.
- Swanick, T., & Chana, N. (2005). Workplace assessment for licensing in general practice. *British Journal of General Practice*, 55(515), 461-467.
- Toolbox of assessment methods: A product of the joint initiative, ACGME Outcomes Project. (2000). Chicago, IL: Accreditation Council for Graduate Medical Education and the American Board of Medical Specialties.
- University of California Los Angeles School of Dentistry: Competencies for the new dentist. (2008). Los Angeles, CA: Author.
- University of California San Francisco School of Dentistry: Clinical competency statements. (2008). San Francisco, CA: Author.
- University of California San Francisco, course schedules. (2008). San Francisco, CA: Author.
- University of Southern California: Competency statements for clinical education program, Class of 2009. (2007). Los Angeles, CA: Author.
- University of the Pacific, Arthur A. Dugoni School of Dentistry: Competency statements, predoctoral. (2008). San Francisco, CA: Author.
- Webb, C., Endacott, R., Gray, M. A., Jasper, M. A., McMullan, M. & Scholes, J. (2003) Evaluating portfolio assessment systems: What are the appropriate criteria? *Nurse Education Today*, 23, 600-609.
- Zartman, R. R., McWhorter, A. G., Seale, N. S., & Boone, W. J. (2002). Using OSCE-based evaluation: Curricular impact over time. *Journal of Dental Education*, 66 (12), 1323-1330.



APPENDIX A – AAE LEVELS OF DIFFICULTY

The American Association of Endodontics designed the Endodontic Case Difficulty Assessment Form for use in endodontic curricula. Conditions listed below should be considered potential risk factors that may complicate treatment and adversely affect the outcome.

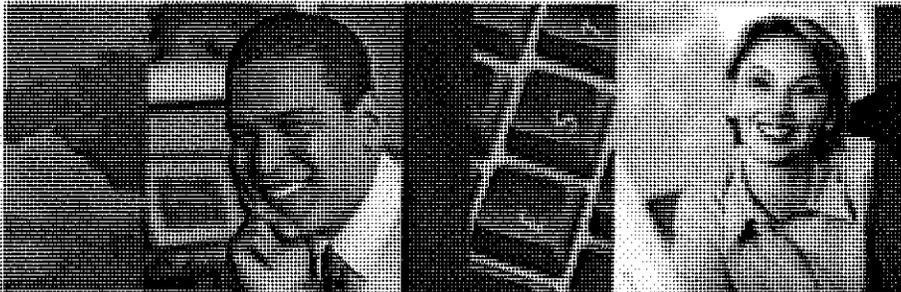
Levels of difficulty are sets of conditions that may not be controllable by the dentist. There are risk factors that can influence the dentist's ability to provide care at a consistently predictable level and impact the appropriate provision of care and quality assurance.

MINIMAL DIFFICULTY	Preoperative condition indicates routine complexity (uncomplicated). These types of cases would exhibit only those factors listed in the MINIMAL DIFFICULTY category. Achieving a predictable treatment outcome should be attainable by a competent practitioner with limited experience.
MODERATE DIFFICULTY	Preoperative condition is complicated, exhibiting one or more patient or treatment factors listed in the MODERATE DIFFICULTY category. Achieving a predictable treatment outcome will be challenging for a competent, experienced practitioner.
HIGH DIFFICULTY	Preoperative condition is exceptionally complicated, exhibiting several factors listed in the MODERATE DIFFICULTY category or at least one in the HIGH DIFFICULTY category. Achieving a predictable treatment outcome will be challenging for even the most experienced practitioner with an extensive history of favorable outcomes.

PORTFOLIO EXAMINATION TO QUALIFY FOR CALIFORNIA DENTAL LICENSURE

SUBMITTED TO

Dental Board of California
2005 Evergreen Street, Suite 1550
Sacramento, CA 95815



PREPARED BY

Comira

Psychometric Services Division
110 Blue Ravine Road, Suite 160
Folsom, California 95630
December 1, 2009

EXECUTIVE SUMMARY

This report describes the procedures used by psychometric consultants at Comira to define the competencies to be tested in the portfolio examination and provide background research that may affect the implementation process. Because the portfolio is an examination, it must meet the Standards for Educational and Psychological Testing (1999) to ensure that it is fair, unbiased, and legally defensible. The purpose of applying the Standards to the validation process is to ensure that the portfolio examination can provide evidence that entry-level dentists possess the minimum competencies necessary to protect public health and safety.

The most important step in establishing the validity of the portfolio examination is to define the competencies to be tested in the examination. Separate focus groups of key faculty from five Board-approved dental schools were convened to identify for oral diagnosis and treatment planning, direct and indirect restoration, removable prosthodontics, endodontics, and periodontics. Basically, focus group participants identified the competencies to be assessed in a systematic way beginning with an outline of major competency domains and ending with a detailed account of major and specific competencies organized in outline fashion. All participants provided input in a systematic, iterative fashion, until consensus is achieved. The competencies identified from this process will serve as the framework for the evaluation system, training and calibration procedures for examiners, and audit procedures for evaluating the efficacy of the process.

- Section 5 lists the major competencies and the subcomponents within each competency (to include in statute)
- Section 6 describes the specific content to be covered within each subcomponent (to be included in regulation upon implementation)
- Section 7 describes basis for the evaluation system and procedures required to design it (to be included in regulation upon implementation)
- Section 8 describes the procedures that will be used to train and calibrate examiners (to be included in regulation upon implementation)
- Section 9 describes procedures that will be used to establish audit procedures for ensuring that the examination accomplishes its objectives (to be included in regulation upon implementation)

The foundation of the portfolio examination is already in place at the dental schools. All five dental schools---University of Pacific, University of California San Francisco, Loma Linda, University of Southern California, and University of California Los Angeles---had a great deal of consistency in their evaluation system. They used very similar criteria to evaluate students' performance and used similar procedures to calibrate their faculty

according to performance criteria. This finding has important implications for the implementation phase of the portfolio examination because the evaluation systems currently used by the dental schools will not require major changes. The only difference between the current systems and the portfolio examination is that the competencies and the system to evaluate them would be standardized across schools. Therefore, the portfolio examination process can be implemented within the dental schools without additional resources. It is anticipated that the students will find the portfolio examination as a reasonable alternative for initial licensure.

In summary, the dental schools were able to reach consensus in identifying critical competencies to be measured in the portfolio examination, thereby standardizing the competencies to be measured and providing the framework for the evaluation system, training and calibration procedures for examiners, and audit procedures for evaluating the efficacy of the process. Active involvement from the five current dental schools will be required to standardize the evaluation system, calibrate examiners, and establish protocols for auditing the examination. Since the foundation of the evaluation system and calibration processes is already embedded in the curriculum, no additional resources will be required.

TABLE OF CONTENTS

SECTION 1 – INTRODUCTION.....	1
OVERVIEW	1
UTILIZATION OF EXPERTS	1
PSYCHOMETRIC STANDARDS.....	2
SECTION 2 – BACKGROUND	3
EXISTING PATHWAYS.....	3
PORTFOLIO EXAMINATION PATHWAY.....	3
REQUIREMENTS FOR PORTFOLIO EXAMINATION	4
OTHER REQUIREMENTS	4
SECTION 3 –THE PORTFOLIO EXAMINATION MODEL.....	5
DEFINITION	5
CHARACTERISTICS.....	5
UNIQUE FEATURES.....	6
SECTION 4 – CONTENT VALIDATION	9
APPLICABLE STANDARDS.....	9
METHODOLOGY	10
PROCESS	10
PROCEDURE.....	11
SECTION 5 – JOB-RELATED CONTENT OF PORTFOLIO	12
SECTION 6 – ANNOTATED OUTLINE OF COMPETENCIES.....	13
AREA 1: COMPREHENSIVE ORAL DIAGNOSIS AND TREATMENT PLANNING ..	13
AREA 2: DIRECT RESTORATION.....	15
AREA 3: INDIRECT RESTORATION	17
AREA 4: REMOVABLE PROSTHODONTICS.....	18
AREA 5: ENDODONTICS	20
AREA 6: PERIODONTICS.....	22
SECTION 7 – EVALUATION SYSTEM.....	23
APPLICABLE STANDARDS.....	23
BEHAVIORALLY ANCHORED RATING SCALES	24
MINIMUM COMPETENCE	24
SECTION 8 – EXAMINER TRAINING AND CALIBRATION.....	26
APPLICABLE STANDARDS.....	26
EXAMINER SELECTION CRITERIA	26
PROCESS	27
TYPES OF RATING ERRORS	27

CROSS-TRAINING OF EXAMINERS.....	28
SECTION 9 – AUDIT PROCESS.....	29
APPLICABLE STANDARDS.....	29
PROCESS.....	29
ROLE OF AUDITORS	30
DOCUMENTATION FOR VALIDITY EVIDENCE	30
SECTION 10 – RESEARCH FINDINGS	32
PSYCHOMETRIC ISSUES.....	32
INITIAL LICENSURE REQUIREMENTS IN OTHER JURISDICTIONS.....	33
COMPARISON OF REQUIREMENTS IN THE U.S. AND CANADA	36
EXISTING COMPETENCY EXAMINATIONS.....	37
CALIBRATION OF EXAMINERS.....	42
SECTION 11 - REFERENCES	44

LIST OF TABLES

Table 1 – Major competencies and subcomponents.....	12
Table 2 – Non-inclusive examples of quality evaluation criteria for casting preparations.....	25
Table 3 – Content-specific documentation.....	31
Table 4 – Summary of existing requirements for initial licensure.....	34
Table 5 – Comparison of practices in U. S. and Canada for initial licensure.....	37
Table 6 – Competency examinations: Loma Linda University.....	38
Table 7 – Competency examinations: University of California Los Angeles.....	39
Table 8 – Competency examinations: University of California San Francisco.....	40
Table 9 – Competency examinations: University of the Pacific.....	41
Table 10 – Competency examinations: University of Southern California.....	42

LIST OF APPENDICES

APPENDIX A – CONSULTANT BACKGROUND.....	46
---	----

SECTION 1 – INTRODUCTION

OVERVIEW

Comira approached the portfolio examination with the understanding that the outcome would directly impact predoctoral dental education at every dental school in California and could provide the framework for evaluating predoctoral dental competencies in dental schools across the nation.

The overarching principle for development of the portfolio examination pathway was consumer protection. Comira worked closely with dental school faculty to derive the framework and content of the examination; moreover, procedures were conducted in an objective and impartial manner with the public's health, safety, and welfare as the most important concern.

First, Comira met with deans and dental school faculty who represented major domains of practice as well as legislative sponsors from the California Dental Association to present the portfolio examination concept and answer faculty questions regarding impact on their respective programs. Second, we conducted focus groups with representative faculty from each of the Board-approved dental schools to individually present the concept and discuss their concerns. Third, we conducted discipline-specific focus groups, i.e., comprehensive oral diagnosis and treatment planning, direct and indirect restoration, removable prosthodontics, endodontics, and periodontics, to develop the content for the examination.

From these meetings, we gained an understanding of the predoctoral dental competencies that were critical to development of the portfolio examination and creating supporting documentation that would be used in the formulation of Assembly Bill 1524. We also conducted an extensive review of written documentation of each school's competency examinations to gain insights into the procedures used in competency examinations and associated scoring systems.

UTILIZATION OF EXPERTS

Deans, section chairs, department chairs and/or other faculty who were knowledgeable in the content domains of interest, e.g., comprehensive oral diagnosis and treatment planning, direct and indirect restoration, removable prosthodontics, periodontics, endodontics, were consulted throughout the process to provide expertise regarding the competencies acquired in their respective programs and the competencies that should be assessed in the examination. Focus groups were conducted face-to-face or via videoconference link between conference rooms at the University of the Pacific and at the University of Southern California.

PSYCHOMETRIC STANDARDS

The Standards for Educational and Psychological Testing (1999) set forth by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education serve as the standards for evaluating all aspects of credentialing, including professional and occupational credentialing. The Standards are used by the measurement profession as the psychometric standards for validating all examinations, including licensing and certification examinations.

Whenever applicable, specific Standards will be cited as they apply to definition of examination content, rating scales, calibration of raters, and auditing procedures to link the particulars of the portfolio examination to psychometric practice.

SECTION 2 – BACKGROUND

EXISTING PATHWAYS

The Dental Board of California (hereafter, the Board) currently offers three pathways that predoctoral dental students may choose to obtain initial licensure:

- A clinical and written examination developed by the Board,
- A clinical and written examination administered by the Western Regional Examining Board, or,
- A minimum of 12 months of a general practice residency or advanced education in general dentistry program approved by the American Dental Association's Commission on Dental Accreditation.

All applicants are required to successfully complete the written examinations of the National Board Dental Examination of the Joint Commission on National Dental Examinations and an examination in California law and ethics.

PORTFOLIO EXAMINATION PATHWAY

Assembly Bill 1524, introduced in February 2009, would eliminate the clinical and written examination currently offered by the Board. Provisions of the bill would allow the Board to offer the portfolio examination as an alternative to initial licensure for general dentists in addition to other pathways available to students graduating from dental schools in California, i.e., the Western Regional Examining Board (WREB) examination and "Licensure by Credential" (PGY-1).

"...The bill would abolish the clinical and written examination administered by the board. The bill would replace the examination with an assessment process in which an applicant is assessed while enrolled at an in-state dental school utilizing uniform standards of minimal clinical experiences and competencies and at the end of his or her dental program."

REQUIREMENTS FOR PORTFOLIO EXAMINATION

Section 3 of the Business and Professions Code is amended to read:

1632. (a) The board shall require each applicant to successfully complete the written examinations of the National Board Dental Examination of the Joint Commission on National Dental Examinations.

1632. (b) The board shall require each applicant to successfully complete an examination in California law and ethics developed and administered by the board. The board shall provide a separate application for this examination.....the only other requirement for taking this examination shall be certification from the dean of the qualifying dental school attended by the applicant that the applicant has graduated, or will graduate, or is expected to graduate.

1632. (c) The board shall require each applicant to have taken and received a passing scoreon the portfolio assessment (examination) of the applicant's fitness to practice dentistry while the applicant is enrolled in a dental school program at a board-approved school in California. This assessment shall utilize uniform standards minimal clinical experiences and competencies. The applicant shall pass a final assessment at the end of his or her dental school program.

OTHER REQUIREMENTS

Students who participate in the portfolio examination pathway must:

- (a) Be in good academic standing in their institution at the time of portfolio examination and be signed off by the dean of their respective schools.
- (b) Have no pending ethical issues at the time of the portfolio examination and must be signed off by the dean of their respective schools.

SECTION 3 –THE PORTFOLIO EXAMINATION MODEL

DEFINITION

Albino, Young, Neumann, Kramer, Andrieu, Henson, Horn, and Hendricson (2008, p. 164) define clinical competency examinations as performance examinations in which students perform designated tasks and procedures on a patient without instructor assistance. The process of care and the products are assessed by faculty observers typically guided by rating scales.

Here, the portfolio examination can be conceptualized as a series of examinations administered in a series of patient encounters in several competency domains. Students are rated according to standardized rating scales by faculty examiners who are formally trained in their use.

CHARACTERISTICS

The distinguishing characteristics of the portfolio examination fulfill psychometric requirements for classifying the portfolio as an examination.

First, the portfolio examination is considered a performance examination that assesses students' skills in commonly encountered clinical situations. There are multiple clinical situations that allow for an evaluation of the full continuum of competency.

Second, it includes components of clinical examination administered by a regulatory board or regional examining entity.

Third, students' performance is measured according to the information provided in competency evaluations conducted in the schools by clinical faculty within the predoctoral program of education.

Fourth, it produces documented data for outcomes assessment of results, thereby allowing for verification of the validity evidence.

Thus, a portfolio examination involves hands-on performance evaluations of clinical skills as evaluated within the students' program of dental education.

The portfolio examination model is designed to use the structure for student evaluation that currently exists within the schools to assess minimum competence. The faculty would observe the treatment provided and evaluate students according to consistent criteria developed by a consensus of key faculty

from all of the dental schools. Each student would prepare a portfolio of documentation that provides proof of completion of competency evaluations for specific procedures such as amalgam/composite restoration, endodontics, fixed prosthetics, oral diagnosis and treatment planning, periodontics, radiography, and removable prosthodontics.

A portfolio examination model captures the strength of traditional portfolios used to assess learning progress and have the additional advantage of being integrated within the current educational process and within the context of a treatment plan of a patient of record. Instead of developing a traditional portfolio and having it evaluated, the portfolio examination model requires documentation of the test cases (or competency cases) which are competency evaluations assembled in either paper or electronic format. The faculty examiners would attest to the ratings achieved by the students. A portfolio examination would be built and evaluated in real time during students' clinical training. Documentation for the portfolio examination would be submitted in paper or electronic format for the required procedures, e.g., periodontics, endodontics, prosthodontics, restorative).

UNIQUE FEATURES

The portfolio examination has several unique features:

1. ***Oversight maintained by the Board.***

The Board has the lawful responsibility to ensure that dentists who are licensed possess the competencies to practice safely and that responsibility cannot be delegated.

2. ***Built-in system for auditing the process.***

Upon implementation, a system must be in place to audit the alternative pathway examination. The auditing system must be part of the design requirement of the alternative pathway examination. The auditing system must be designed such that the Board and the examiners have defined responsibilities to ensure that the students who are successful are competent.

3. ***Does not require additional resources from the students, schools, or the Board.***

There are systems and procedures already in place in the dental schools. The structure of the systems and procedures are quite suitable for evaluating students' competence. The systems and procedures are very similar among the dental schools and, with collaboration among the schools, could create a common system.

4. *Must be instituted within the current systems of student evaluation.*

The standards and criteria for successful performance must be fully established by the schools and consistent application of the standards and criteria would take into account the tremendous amount of work undertaken to comprehensively evaluate the students' clinical skills in a variety of clinical situations.

5. *Must be considered an examination and meet all professional testing standards.*

Any method or system that evaluates performance and classifies students within a licensing context is considered an examination by professional testing standards and case law.

6. *Meets psychometric standards, relevant to current practice, and designed for minimum competence.*

Because the portfolio pathway is an examination, it must meet legal standards as explicated in Sections 12944, Section 139, guidelines of the Business and Professions Code and psychometric standards for examinations set forth by the Standards for Educational and Psychological Testing (1999).

7. *Is designed to cover the full continuum of competence.*

The alternative pathway examination must assess competencies throughout the course of treatment including oral diagnosis and treatment planning, follow-up and ongoing care, restorative (amalgam and composite restoration, fixed prosthetics), endodontics, periodontics, radiography, and removable prosthodontics.

8. *Evaluation of competence is within the course of treatment plan for patients of record.*

The competency of the students must be evaluated in the course of treatment of a patient. The evaluation of competence should not be in an artificial or contrived situation as may be true when the services are solely for the purpose of training.

9. *Examiners are regularly calibrated for consistent implementation of the examination.*

The examiners who participate in the alternative pathway examination must be trained and calibrated to ensure that the standards and criteria do not vary

across students. Each student must have a standardized examination experience.

- 10. *Has policies and procedures that treat licensure students fairly and professionally, with timely and complete communication of examination logistics and results.***

The alternative pathway examination must be designed such that students are knowledgeable of standards to which they are being held accountable and the procedures that they should follow in order to maximize success.

SECTION 4 – CONTENT VALIDATION

APPLICABLE STANDARDS

Since criterion-related evidence is generally not available for use in making licensure decisions, validation of licensure and certification tests rely mainly on expert judgments that the test adequately represents the content domain of the occupation or specialty. Here, content-related validity evidence from a job analysis supports the validity of the portfolio examination as a measure of clinical competence. The Standards contain extensive discussion of validity issues.

“Test design generally starts with an adequate definition of the occupation or specialty, so that persons can be clearly identified as engaging in the activity.” (p. 156)

“Often a thorough analysis is conducted of the work performed by people in the profession or occupation to document the tasks and abilities that are essential to practice. A wide variety of empirical approaches is used, including delineation, critical incidence techniques, job analysis, training needs assessments, or practice studies and surveys of practicing professionals. Panels of respected experts in the field often work in collaboration with qualified specialists in testing to define test specifications, including the knowledge and skills needed for safe, effective performance, and an appropriate way of assessing that performance.” (p. 156)

“Credentialing tests may cover a number of related but distinct areas. Designing the testing program includes deciding what areas are to be covered, whether one or a series of tests is to be used, and how multiple test scores are to be combined to reach an overall decision.” (p. 156-157)

There are also specific standards that address the use of job analysis to define the competencies to be tested in the portfolio examination.

Standard 14.8

“Evidence of validity based on test content requires a thorough and explicit definition of the content domain of interest. For selection, classification, and promotion, the characterization of the domain should be based on a job analysis.” (p. 160)

Standard 14.14

“The content domain to be covered by a credentialing test should be defined clearly and justified in terms of the importance of the content for credential-worthy performance in an occupation or profession. A rationale should be provided to support the claim that the knowledge or skills being assessed are required for credential-worthy performance in an occupation and are consistent with the purpose for which the licensing or certification program was instituted” (p. 161)

METHODOLOGY

The methodology used to validate the content of the competency examinations comprising the portfolio examination is a commonly used psychometric procedure called job (aka practice) analysis. Job analysis data is typically obtained through multiple sources including interviews, observations, survey questionnaires, and/or focus groups.

For the portfolio examination, we relied on information obtained from focus groups comprised of participants representing different content domains of practice. This methodology has been used extensively in the measurement field and is described in detail in many publications in the psychometric literature as a “table-top job analysis”, e.g., Department of Energy (1994). Basically, focus group participants identify the competencies to be assessed in a systematic way beginning with an outline of major competency domains and ending with a detailed account of major and specific competencies organized in outline fashion. All participants provide input in a systematic, iterative fashion, until consensus is achieved.

PROCESS

Separate focus groups from the five Board-approved dental schools were convened to define the content for the portfolio examinations for six competency domains to be assessed in the portfolio examination: comprehensive oral diagnosis and treatment planning, direct and indirect restoration, removable prosthodontics, periodontics, and endodontics.

The content was developed at two levels of analysis. The first level of analysis was to develop a consensus at a broad level regarding the major competencies to be assessed. The faculty indicated that the competencies were acceptable to the schools as the basis for the portfolio examination. They further understood that the major competencies were likely to be included in proposed legislation in order to implement the portfolio examination. The second level of analysis produced detailed procedures for measuring specific subcomponents within each of the six competency domains. The detailed procedures will be used to develop the portfolio examinations.

PROCEDURE

The procedure was conducted systematically in several steps:

- | | |
|--|---|
| <i>Step 1</i>
<i>Orient focus group</i> | <ul style="list-style-type: none">• Present participants with an outline of topics to be covered for a given competency domain• Orient participants as to the goal of the process and how the results will be used |
| <i>Step 2</i>
<i>Review subject matter</i> | <ul style="list-style-type: none">• Have participants explain how their program currently conducts competency examinations• Review the topics involved in a given competency domain, e.g., periodontics, endodontics, etc. |
| <i>Step 3</i>
<i>Identify major competencies</i> | <ul style="list-style-type: none">• Identify major competencies to be assessed• Discuss implications of the competencies at each participant's program until consensus is reached |
| <i>Step 4</i>
<i>Identify specific competencies</i> | <ul style="list-style-type: none">• Identify specific competencies within each content domain to be assessed• Discuss implications of the competencies at each participant's program until consensus is reached |
| <i>Step 5</i>
<i>Sequence competencies</i> | <ul style="list-style-type: none">• Sequence the competencies until consensus is reached |
| <i>Step 6</i>
<i>Develop competency statements</i> | <ul style="list-style-type: none">• Rephrase each competency in terms of a consistent format that includes an action verb and direct object (c. f., Chambers & Gerrow, 1994) |
| <i>Step 7</i>
<i>Refine competencies</i> | <ul style="list-style-type: none">• Make final edits to the wording of the competencies until consensus is reached |
| <i>Step 8</i>
<i>Re-evaluate competencies</i> | <ul style="list-style-type: none">• Discuss the list of major and specific competencies until consensus is reached |

SECTION 5 – JOB-RELATED CONTENT OF PORTFOLIO

The portfolio examination is comprised of performance examinations in six competency domains identified by the focus groups using a “table-top job analysis” methodology described in Section 4. The competencies and their subcomponent competencies provide the most fundamental type of validity evidence for the portfolio examination, that is, *content*. The subcomponents of each major competency domain are presented below.

Table 1 – Major competencies and subcomponents

<i>Comprehensive oral diagnosis and treatment planning</i>	<ol style="list-style-type: none"> I. Collect medical and dental history II. Perform comprehensive examination III. Evaluate data to identify problems IV. Work up problems and develop tentative treatment plan V. Develop final treatment plan VI. Prepare documentation according to risk management standards
<i>Direct restoration</i>	<ol style="list-style-type: none"> I. Restore tooth containing primary carious lesions to optimal form, function and esthetics with Class II amalgam or composite II. Restore tooth containing primary carious lesions to optimal form, function and esthetics with Class III or IV composite III. Restore tooth containing primary carious lesions to optimal form, function and esthetics with Class V glass ionomer, composite or amalgam IV. Select case based on minimum criteria for direct restorations
<i>Indirect restoration</i>	<ol style="list-style-type: none"> I. Restore tooth to optimal form, function and esthetics with crown or onlay according to approved procedures and materials for indirect restorations II. Select case based on minimum criteria for indirect restorations
<i>Removable prosthodontics</i>	<ol style="list-style-type: none"> I. Develop diagnosis and determine treatment options and prognosis for removable prosthesis II. Restore edentulous spaces with removable prostheses III. Manage tooth loss transition with immediate or transitional prostheses IV. Manage prosthetic problems V. Direct and evaluate laboratory services for prosthesis
<i>Endodontics</i>	<ol style="list-style-type: none"> I. Apply case selection criteria for endodontic cases II. Demonstrate pretreatment preparation for endodontic treatment III. Perform access opening IV. Perform shaping and cleaning techniques V. Perform obturation techniques VI. Demonstrate completion of endodontic case VII. Provide recommendations for post-endodontic treatment
<i>Periodontics</i>	<ol style="list-style-type: none"> I. Perform comprehensive periodontal examination II. Determine diagnosis and develop periodontal treatment plan III. Perform nonsurgical periodontal therapy IV. Perform periodontal re-evaluation

SECTION 6 – ANNOTATED OUTLINE OF COMPETENCIES

For each major competency and subcomponent competency domain, focus group participants were asked to provide additional details to specify the scope of the competencies being measured. Below are the competency domains, subcomponent competencies, and specific content to be covered within each subcomponent.

AREA 1: COMPREHENSIVE ORAL DIAGNOSIS AND TREATMENT PLANNING

- I. Collect medical and dental history
 - A. Evaluate medical history, e.g., past illnesses and conditions, family history, current illnesses and medications, medications and their effect on dental condition
 - B. Obtain dental history, e.g., age of previous prostheses, existing restorations, prior history of orthodontic/periodontic treatment, oral hygiene habits/adjuncts
 - C. Determine chief complaint
 - D. Determine psychosocial issues
 - E. Determine behavioral issues that affect relationship with patient
- II. Perform comprehensive examination
 - A. Interpret radiographic series
 - B. Perform caries risk assessment
 - C. Determine periodontal condition
 - D. Perform head and neck examination
 - E. Screen for temporomandibular disorders
 - F. Assess vital signs
 - G. Perform clinical examination of dentition
 - H. Perform occlusal examination
- III. Evaluate data to identify problems
 - A. List chief complaint
 - B. List medical problems
 - C. List stomatognathic problems
 - D. List psychosocial problems
- IV. Work up problems and develop tentative treatment plan
 - A. Define each problem, e.g., severity/chronicity, classification
 - B. Determine if any additional diagnostic tests are needed
 - C. Develop differential diagnosis
 - D. Recognize need for referral(s)
 - E. Address pathophysiology of problem
 - F. Address short term needs
 - G. Address long term needs

- H. Determine interactions of problems
- I. Develop treatment options
- J. Determine prognosis
- K. Prepare patient information for informed consent
- V. Develop final treatment plan
 - A. Establish rationale for treatment
 - B. Address all problems (any condition that puts the patient at risk in the long term)
 - C. Determine sequencing within the following framework
 1. Systemic: medical issues of concern, medications and their effects, effect of diseases on oral condition, precautions, treatment modifications
 2. Urgent: Acute pain/infection management, urgent esthetic issues, further exploration/additional information, oral medicine consultation, pathology
 3. Preparatory: Preventive interventions, orthodontic, periodontal (Phase I, II), endodontic treatment, oral surgical treatment, TMD treatment, caries control, other temporization
 4. Restorative: operative, fixed, removable prostheses, occlusal splints, implants
 5. Elective: Esthetic (veneers, etc.), any procedure that is not clinically necessary, replacement of sound restoration for esthetic purposes, bleaching
 6. Maintenance: Periodontic recall, radiographic interval, periodic oral examination, caries risk management
- VI. Prepare documentation according to risk management standards

AREA 2: DIRECT RESTORATION

- I. Restore tooth containing primary carious lesions to optimal form, function and esthetics with Class II amalgam or composite
- II. Restore tooth containing primary carious lesions to optimal form, function and esthetics with Class III or IV composite
- III. Restore tooth containing primary carious lesions to optimal form, function and esthetics with Class V glass ionomer, composite or amalgam
- IV. Select case based on minimum criteria for direct restorations
 - A. Class II – Any permanent posterior tooth
 1. Treatment needs to be performed in the sequence described in the treatment plan
 2. More than one test procedure can be performed on a single tooth; teeth with multiple lesions may be restored at separate appointments
 3. Caries as shown on either of the two required films on an unrestored proximal surface must extend to the dentoenamel junction
 4. Tooth to be treated must be in occlusion
 5. Must have an adjacent tooth to be able to restore a proximal contact; proximal surface of the dentition adjacent to the proposed restoration must be either natural tooth structure or a permanent restoration; provisional restorations or removable partial dentures are not acceptable adjacent surfaces
 6. Tooth must be asymptomatic with no pulpal or periapical pathology; cannot be endodontically treated or in need of endodontic treatment
 7. Tooth with bonded veneer is not acceptable
 8. The lesion is not acceptable if it is in contact with circumferential decalcification
 - B. Class III/IV – Any permanent anterior tooth
 1. Treatment needs to be performed in the sequence described in the treatment plan
 2. More than one test procedure can be performed on a single tooth. Teeth with multiple lesions may be restored at separate appointments.
 3. Caries as shown on the required film on an unrestored proximal surface must extend to the dentoenamel junction
 4. Must have an adjacent tooth to be able to restore a proximal contact; proximal surface of the dentition adjacent to the proposed restoration must be either natural tooth structure or a permanent restoration; provisional restorations or removable partial dentures are not acceptable adjacent surfaces
 5. Tooth must be asymptomatic with no pulpal or periapical pathology; cannot be endodontically treated or in need of endodontic treatment
 6. The lesion is not acceptable if it is in contact with circumferential decalcification

7. Approach must be appropriate for the tooth
8. Tooth with bonded veneer is not acceptable

C. Class V – Any permanent tooth

1. Tooth must have a carious lesion that is clinically evident.
2. Treatment needs to be performed in the sequence described in the treatment plan
3. More than one test procedure can be performed on a single tooth; teeth with multiple lesions may be restored at separate appointments
4. Tooth must be asymptomatic with no pulpal or periapical pathology; cannot be endodontically treated or in need of endodontic treatment; the lesion is not acceptable if it is in contact with circumferential decalcification
5. New restoration must be separate from any existing restoration on the tooth

AREA 3: INDIRECT RESTORATION

- I. Restore tooth to optimal form, function and esthetics with crown or onlay according to approved procedures and materials for indirect restorations.
 - A. Ceramic restoration must be onlay or more extensive
 - B. Partial gold restoration must be onlay or more extensive
 - C. Metal ceramic restoration
 - D. Full gold restoration
 - E. Facial veneer is not acceptable
- II. Select case based on minimum criteria for indirect restorations.
 - A. Treatment needs to be performed in the sequence described in the treatment plan.
 - B. Tooth must be asymptomatic with no pulpal or periapical pathology; cannot be in need of endodontic treatment. Endodontically treated teeth must follow standard of care.
 - C. Tooth must have opposing occlusion that is stable.
 - D. Must have an adjacent tooth to be able to restore a proximal contact; proximal surface of the tooth adjacent to the planned restoration must be either an enamel surface or a permanent restoration; temporary restorations or removable partial dentures are not acceptable adjacent surfaces
 - E. Tooth must require an indirect restoration at least the size of the onlay or greater.
 - F. Cannot replace existing or temporary crowns
 - G. Buildups may be completed ahead of time, if needed. Teeth with cast posts are not allowed.
 - H. Restoration must be completed on the same tooth and same patient by the same student
 - I. Validated lab or fabrication error will allow a second delivery attempt starting from a new impression or modification of the existing crown.
 - J. Digital media cannot be used to capture impressions.

AREA 4: REMOVABLE PROSTHODONTICS

- I. Develop diagnosis and determine treatment options and prognosis for removable prosthesis
 - A. Obtain patient history, e.g., medical, dental, psychosocial
 - B. Evaluate chief complaint
 - C. Obtain radiographs and photographs
 - D. Perform clinical examination, e.g., hard/soft tissue charting, endodontic evaluation, occlusal examination, skeletal/jaw relationship, VDO, CR, MIP
 - E. Evaluate existing prosthesis and patient concerns
 - F. Obtain and mount diagnostic cast
 - G. Determine complexity of case, e.g., ACP classification
 - H. Present treatment options and prognosis assessment, e.g., complete denture, partial denture, overdenture, implant options, FPD
 - I. Analyze risks/benefits
 - J. Apply critical thinking and make evidence-based treatment decisions
- II. Restore edentulous spaces with removable prostheses
 - A. Develop diagnosis and treatment plan for removable prosthesis
 - B. Obtain diagnostic casts
 - C. Perform diagnostic wax-up/survey framework design
 - D. Determine need for preprosthetic surgery and make necessary referral
 - E. Perform tooth modification and/or survey crowns
 - F. Obtain master impressions and casts
 - G. Obtain occlusal records
 - H. Try-in and evaluate trial dentures
 - I. Insert prosthesis
 - J. Provide post-insertion care
 - K. Apply standards of care, e.g., infection control, informed consent
- III. Manage tooth loss transition with immediate or transitional prostheses
 - A. Develop diagnosis and treatment plan – tooth salvage/extraction decisions
 - B. Educate patient regarding healing process, denture experience, future treatment needs, etc
 - C. Plan surgical and prosthetic phases
 - D. Obtain casts, e.g., preliminary/final impressions
 - E. Obtain occlusal records
 - F. Perform diagnostic wax-up
 - G. Try-in and evaluate trial dentures
 - H. Manage and coordinate surgical phase
 - I. Insert immediate or transitional prosthesis
 - J. Provide post insertion care including adjustments, relines, patient counseling
 - K. Apply standards of care, e.g., infection control, informed consent
- IV. Manage prosthetic problems
 - A. Assess real or perceived patient problems

- B. Evaluate existing prosthesis
 - C. Perform uncomplicated repair, reline, re-base, re-set or re-do
 - D. Determine need for specialty referral
 - E. Obtain impression/record/information for laboratory use
 - F. Communicate needed prosthetic procedure to laboratory technician
 - G. Insert prosthesis and provide follow-up care
 - H. Perform in-office maintenance, e.g., prosthesis cleaning, clasp tightening, occlusal adjustment
- V. Direct and evaluate laboratory services for prosthesis
- A. Complete laboratory prescription
 - B. Communicate with laboratory technician
 - C. Evaluate laboratory work product, e.g., frameworks, processed dentures

AREA 5: ENDODONTICS

- I. Apply case selection criteria for endodontic cases
 - A. Meet AAE case criteria for minimum difficulty
 1. Treat simple morphologies of all teeth
 2. Treat teeth that include signs and symptoms of swelling and acute inflammation
 3. Treat teeth without previous complete or partial endodontic therapy
 - B. Determine endodontic diagnosis
 - C. Perform charting and diagnostic testing
 - D. Take and interpret radiographs
 - E. Determine pulpal diagnosis within approved parameters
 1. Within normal limits
 2. Reversible pulpitis
 3. Irreversible pulpitis
 4. Necrotic pulp
 - F. Determine periapical diagnosis within approved parameters
 1. Within normal limits
 2. Asymptomatic apical periodontitis
 3. Symptomatic apical periodontitis
 4. Acute apical abscess
 5. Chronic apical abscess
 - G. Develop endodontic treatment plans including referral, trauma, and management of emergencies
- II. Demonstrate pretreatment preparation for endodontic treatment
 - A. Manage pain control
 - B. Remove caries and failed restorations
 - C. Determine restorability
 - D. Achieve isolation
- III. Perform access opening
 - A. Create indicated outline form
 - B. Create straight line access
 - C. Maintain structural integrity
 - D. Complete unroofing of pulp chamber
 - E. Identify all canal systems
- IV. Perform shaping and cleaning techniques
 - A. Maintain canal integrity
 - B. Preserve canal shape and flow
 - C. Apply protocols for establishing working length
 - D. Manage apical control
 - E. Apply disinfection protocols
- V. Perform obturation techniques
 - A. Apply obturation protocols
 1. Select and fit master cone
 2. Determine canal conditions before obturation

- 3. Verify sealer consistency and adequacy of coating
 - B. Demonstrate length control of obturation
 - C. Achieve dense obturation of filling material
 - D. Demonstrate obturation to a clinically appropriate coronal height
- VI. Demonstrate completion of endodontic case
 - A. Achieve coronal seal to prevent re-contamination
 - B. Create diagnostic, radiographic and narrative documentation
- VII. Provide recommendations for post-endodontic treatment
 - A. Recommend final restoration alternatives
 - B. Provide recommendations for outcomes assessment and follow-up

AREA 6: PERIODONTICS

- I. Perform comprehensive periodontal examination
 - A. Review medical and dental history
 - B. Interpret radiographs
 - C. Perform extra- and intra-oral examination
 - D. Perform comprehensive periodontal data collection
 - 1. Evaluate plaque index, probing depths, bleeding on probing, suppuration, cemento-enamel junction-gingival margin, clinical attachment level and furcations
 - 2. Perform occlusal assessment
 - E. Evaluate periodontal etiology/risk factors (local and systemic)
- II. Determine diagnosis and develop periodontal treatment plan
 - A. Determine periodontal diagnosis
 - B. Formulate initial periodontal treatment plan
 - 1. Determine whether to treat or refer to periodontist
 - 2. Discuss with patient etiology, benefits of treatment, specific risk factors, alternatives and patient-specific oral hygiene instructions
 - 3. Determine nonsurgical periodontal therapy including management of contributing factors of periodontitis
 - 4. Determine need for re-evaluation
 - 5. Determine recall interval (if no re-evaluation needed)
- III. Perform nonsurgical periodontal therapy
 - A. Detect supra- and subgingival calculus
 - B. Perform periodontal instrumentation
 - 1. Remove calculus
 - 2. Remove plaque
 - 3. Remove stains
 - C. Minimize tissue trauma
 - D. Provide effective anesthesia
- IV. Perform periodontal re-evaluation
 - A. Evaluate effectiveness of oral hygiene care
 - B. Assess periodontal outcomes
 - 1. Review medical and dental history
 - 2. Review radiographs
 - 3. Perform comprehensive periodontal data collection (e.g., evaluate plaque index, probing depths, bleeding on probing, suppuration, cemento-enamel junction-gingival margin, clinical attachment level, furcations, tooth mobility)
 - C. Discuss with patient etiology, benefits of treatment, alternatives, patient-specific oral hygiene instructions, and modification of specific risk factors
 - D. Determine further periodontal needs including need for referral to a periodontist and periodontal surgery
 - E. Establish recall interval for periodontal treatment

SECTION 7 – EVALUATION SYSTEM

A standardized evaluation system will be used as the tool to evaluate students' performance in the competency examinations. To implement the portfolio examination, the competencies and their subcomponents defined in Section 5 will provide the framework for the evaluation system that will assess the students' competencies in the procedures. Faculty from all Board-approved dental schools must be involved in the process so that the final evaluation system represents rating criteria applicable to students regardless of their predoctoral programs.

The evaluation system is intended to be used for summative decisions (high-stakes, pass/fail decisions) rather than formative decisions (compilation of daily work with faculty feedback for learning purposes). The evaluation system provides quantitative validity evidence for determining clinical competence in terms of numeric scores.

APPLICABLE STANDARDS

The evaluation system must meet psychometric criteria to provide the measurement opportunity for success for all students.

- Standard 3.20* "The instructions presented to test takers should contain sufficient detail so that test takers can respond to a task in the manner that the test developer intended. When appropriate, sample material, practice or sample questions...should be provided to test takers prior to the administration of the test or included in the testing material as part of the standard administration instructions." (p. 47)
- Standard 3.22* "Procedures for scoring and, if relevant, scoring criteria should be presented by the test developer in sufficient detail and clarity to maximize the accuracy of scoring. Instructions for using rating scales or for deriving scores obtained by coding, scaling, or classifying constructed responses should be clear." (p. 47)
- Standard 14.17* "The level of performance required for passing a credentialing test should depend on the knowledge and skills necessary for acceptable performance in the occupation or profession and should not be adjusted to regulate the number or proportion of persons passing the test." (p. 162)

BEHAVIORALLY ANCHORED RATING SCALES

Behaviorally anchored rating scales have unique measurement properties which have been used extensively in medical and dental education as a tool to assess performance. They rely on critical incidents of behavior which may be classified into dimensions unique and independent of each other in their meaning. Each performance dimension is arrayed on a continuum of behaviors and examiners must select the behaviors that most closely describe the student's performance.

There are several steps to develop behaviorally anchored rating scales for the portfolio examination evaluation system:

1. Use the competencies and their associated subcomponents defined by the table-top job analysis discussed in Section 5 as the framework for the evaluation system, e.g., comprehensive oral diagnosis and treatment planning, direct restoration, indirect restoration, removable prosthodontics, endodontics, periodontics
2. Generate critical incidents of ineffective and effective behavior
3. Create performance dimensions that describe the qualities of groups of critical incidents
4. Define performance dimensions in terms of numeric ratings, e.g., 1 to 5, 1 to 7, 1 to 9
5. Retranslate (reclassifying) the critical incidents to ensure that the incidents describe the performance dimensions
6. Identifying six to seven incidents for each performance dimension
7. Refine standardized criteria for each of the competency domains and their subcomponent competencies
8. Establish minimum acceptable competence criteria (passing criteria) for competency examinations

MINIMUM COMPETENCE

The passing standard for all of the competency examinations will be built into the rating scales when the rating criteria are developed. The rating criteria for minimum competence is best developed by representative faculty who have a solid conceptual understanding of standardized rating criteria and how the criteria will be applied in an operational setting.

Table 2 – Non-inclusive examples of quality evaluation criteria for casting preparations¹

Rating	Outline	Internal	Retention	Marginal Finish
5	<ul style="list-style-type: none"> Outline fulfills all criteria for proper extension Margins terminate exactly where specified Margins terminate on smooth, clean, finishable tooth structure 	<ul style="list-style-type: none"> Optimal reduction to allow for proper contour, strength and esthetics of completed restoration Indicated bases and/or build-up properly placed 	<ul style="list-style-type: none"> Maximum length of axial first plane walls and internal walls compatible with periodontal health, pulpal health and strength of tooth. Secondary retentive features placed as indicated with maximum length, property depth, parallel with path of insertion, 	<ul style="list-style-type: none"> Enamel walls supported by dentin Margins terminate with proper angulation Finish lines are smooth and free of irregularities Finish lines are continuous Preparation is isolated to allow for evaluation
4	<ul style="list-style-type: none"> Outline form does not fulfill all criteria for proper extension in one area but is still acceptable and does not require alteration Minimal abrasion of the adjacent tooth in one area that requires smoothing 	<ul style="list-style-type: none"> Deviates from ideal in one area but still within acceptable range; allows for fabrication of a satisfactory restoration 	<ul style="list-style-type: none"> Retention adequate but not optimal in an isolated area 	<ul style="list-style-type: none"> Deviates from the ideal in one area but is still within acceptable range and will allow for fabrication of satisfactory restoration
3	<ul style="list-style-type: none"> Outline form does not fulfill all criteria for proper extension in multiple areas but is acceptable and does not require alteration 	<ul style="list-style-type: none"> Deviates from ideal in multiple areas but still within acceptable range 	<ul style="list-style-type: none"> Retention adequate but not optimal in multiple areas 	<ul style="list-style-type: none"> Deviates from the ideal in multiple areas but is still within acceptable range and will allow for fabrication of satisfactory restoration
2	<ul style="list-style-type: none"> Outline form does not fulfill the criteria for proper extensions and is unacceptable requiring alteration of preparation Cutting the adjacent tooth requires recontouring adjacent tooth 	<ul style="list-style-type: none"> Deviates from the acceptable range and will not allow for fabrication without modification Carries remaining in preparation 	<ul style="list-style-type: none"> Retention is not satisfactory and requires modification 	<ul style="list-style-type: none"> Deviates from the ideal in more than one area and requires modification to fabricate an acceptable restoration
1	<ul style="list-style-type: none"> Outline form does not fulfill all criteria for proper extension and requires alteration of the preparation Cuts the adjacent tooth Damages the periodontium 	<ul style="list-style-type: none"> Severely deviates from acceptable in one area and deviates from acceptable in multiple areas Mechanical exposure of pulp or perforation of root 	<ul style="list-style-type: none"> Retention severely inadequate and requires extensive modification 	<ul style="list-style-type: none"> Severely deviates from the ideal in one or more areas and requires modifications to fabricate an acceptable restoration

¹ Adapted from University of Southern California quality evaluation criterion for casting preparations. Not all anchors from the criteria were used.

SECTION 8 – EXAMINER TRAINING AND CALIBRATION

In order to meet the standard required for psychometrically sound examinations, training and calibration procedures must be linked back to the competencies defined by a job analysis and to the evaluation system. All the schools must calibrate their faculty to the same rating criteria. Again, faculty from all Board-approved dental schools must be involved in the process to ensure those faculty apply the same standards to students' performance. It is very important for the Board to be aware of threats to the validity of the examination that arise from improper training and calibration. If the examiners are improperly trained and calibrated, the examiners would compromise the portfolio examination's ability to produce results that warrant valid conclusions about students' clinical competence.

APPLICABLE STANDARDS

- Standard 5.1* "Test administrators should follow carefully the standardized procedures for administration and scoring as specified by the test developer, unless the situation or a test taker's disability dictates an exception should be made." (p. 63)
- Standard 5.8* "Test scoring services should document the procedures that were followed to assure accuracy of scoring. The frequency of scoring errors should be monitored and reported to users of the service on reasonable request. Any systematic source of scoring errors should be corrected." (p. 64)
- Standard 5.9* "When test scoring involves human judgment, scoring rubrics should specify criteria for scoring. Adherence to established scoring criteria should be monitored and checked regularly. Monitoring procedures should be documented." (p. 65)

EXAMINER SELECTION CRITERIA

Examiners will be dental school faculty trained to use a standardized evaluation system through didactic and experiential methods. Each examiner will be required to submit credentials to document their qualifications and experience in conducting examinations in an objective manner.

During hands-on training, examiners will be provided feedback about their performance and how their scoring varies from their fellow examiners. Examiners whose error rate exceeds a prespecified percentage error will be re-

calibrated. If any examiner is unable to be re-calibrated, the Board would dismiss the examiner from the portfolio examination process.

PROCESS

Examiners will be asked to review a variety of materials, e.g. online overview of process, examiner training manuals, slide presentations (Powerpoint), sample cases, sample documentation, DVD, etc., prior to participating in the actual rating of students.

Training activities will have multiple examples of performance that clearly relate to the specific judgments that examiners are expected to provide during the competency examinations. Hands-on training sessions should include an overview of the rating process, clear examples of rating errors, examples of how to mark the grading forms, a series of several sample cases for examiners to hone their skills, and numerous opportunities for training staff to provide feedback to individual examiners.

There are several steps in the process:

1. Establish agreement among all the schools as to the level of performance represented by the competencies represented in the evaluation
2. Train all faculty from all the dental schools involved in portfolio examination to use standardized criteria to agreed upon set standards for interrater reliability
3. Build in a process for faculty from other schools to participate in evaluating students in competency examinations
4. Develop an evaluation system and calibration process that is iterative and involves individual feedback so that mid-course modifications can be made to improve the system as necessary
5. Conduct calibration regularly to maintain common standards as a ongoing process

TYPES OF RATING ERRORS

The competency examinations have the potential to introduce error to the score that is unrelated to the reliability of the examination. Several common rating errors can interfere with the rating process by diminishing the accuracy, effectiveness and fairness of the ratings (Cascio, 1992). Rating errors can be avoided by developing scoring criteria that clearly define acceptable and unacceptable performance.

- Halo effect: Inappropriate generalization from one aspect of an individual's performance to all areas of the person's performance
- Contrast effect: Tendency to rate persons in comparison to others

- Stereotyping: Tendency to generalize, favorably or unfavorably, across groups and ignore individual differences
- Central tendency: Inclination to rate students in the middle of the rating scale even when student performance merits higher or lower ratings
- Negative/positive skew: Inclination to rate students higher or lower than their performance warrants
- Recency effect: Tendency to discount events that occurred early in the rating period and overemphasize those that occurred later.

CROSS-TRAINING OF EXAMINERS

Training sessions will be conducted on an ongoing basis in both northern and southern California, with the expectation that examiners participating in the portfolio examination process will have ample opportunities to participate in competency examinations conducted at a school other than their own. It may not be necessary to have examiners from other schools rate each and every student; however, periodic participation of examiners from outside schools can strengthen the credibility of the process and ensure objectivity of ratings.

SECTION 9 – AUDIT PROCESS

The purpose of the audit should be to determine if the schools are following the procedures established for the evaluation system and calibration process. The design of the evaluation system and the calibration process will be sufficiently robust to ensure that only the students who meet the passing criteria would be issued a license. The Dental Board should oversee the auditing process and establish standards necessary for public protection in cooperation with dentists who are knowledgeable of the portfolio examination and licensing standards.

During an audit, in-depth information is obtained about the administrative and psychometric aspects of the portfolio examination, much like the accreditation process. An audit team comprised of faculty from the dental schools and persons designated by the Board would verify compliance with accepted professional testing standards, e.g., Standards for Educational and Psychological Testing, as well as verify whether the portfolios have been implemented according to the goals of the portfolio process.

APPLICABLE STANDARDS

Standard 3.15 “When using a standardized testing format to collect structured behavior samples, the domain, test design, test specifications and materials should be documented as for any other test. Such documentation should include a clear definition of the behavior expected of the test takers, the nature of expected responses, and any materials or directions that are necessary to carry out the testing.” (p. 46)

PROCESS

There are several steps in the process:

1. Develop documents for evaluating the schools compliance with the evaluation system and calibration process
2. Train auditors in the evaluation system and calibration process
3. Develop criteria for auditors to apply in reviewing schools' compliance with the evaluation system and calibration process
4. Select auditors who can maintain the principle of independence
5. Develop self-assessment protocols and schedules for schools to complete

ROLE OF AUDITORS

The audit team is responsible for verification of the examination process and examination results, and, collection and evaluation of specific written documentation which respond to a set of standardized audit questions and summarizing the findings in a written report. A site visit can be conducted to verify portfolio documentation and clear up unresolved questions.

The audit team would be comprised of persons who can remain objective and neutral to the interests of the school being audited. The audit team should be knowledgeable of subject matter, psychometric standards, psychometrics and credentialing testing.

The audit team should be prepared to evaluate the information provided in a written report that documents the strengths and weaknesses of each school's administrative process and provides recommendations for improvement.

DOCUMENTATION FOR VALIDITY EVIDENCE

Each student will have a portfolio of completed, signed rating (grade) sheets which provide evidence that clinical competency examinations in the six areas of practice have been successfully completed.

In addition to the signed rating (grade) sheets, there is content-specific documentation that must be provided. A list of acceptable documentation is presented on the following page.

Table 3 – Content-specific documentation

<i>COMPREHENSIVE ORAL DIAGNOSIS AND TREATMENT PLANNING</i>	<ul style="list-style-type: none"> • Full workup of case
<i>DIRECT RESTORATION</i>	<ul style="list-style-type: none"> • Restorative diagnosis and treatment plan • Preoperative radiographs, e.g., original lesion in Class II, III, IV • Postoperative radiographs including final fill
<i>INDIRECT RESTORATION</i>	<ul style="list-style-type: none"> • Restorative diagnosis and treatment plan • Preoperative radiographs • Postoperative radiographs including successfully cemented crown or onlay
<i>REMOVABLE PROSTHODONTICS</i>	<ul style="list-style-type: none"> • Removable prosthodontic diagnosis and treatment plan • Preoperative radiographs illustrating treatment condition • Preoperative and postoperative intraoral photographs of finished appliance
<i>PERIODONTICS</i>	<ul style="list-style-type: none"> • Periodontal diagnosis and treatment plan • Charted pocket readings • Preoperative radiographs including subgingival calculus • Postoperative radiographs • Follow-up report
<i>ENDODONTICS</i>	<ul style="list-style-type: none"> • Endodontic diagnosis and treatment plan • Preoperative radiographs of treatment site • Postoperative radiographs of treatment site

SECTION 10 – RESEARCH FINDINGS

PSYCHOMETRIC ISSUES

Several researchers comment that if portfolios are used for summative rather than formative purposes, it must meet stringent psychometric requirements including standardization, rater training with structured guidelines for making decisions, and large numbers of examiners to average out rater effects (Driessen, van der Vleuten, Schuwirth, Tartwijk & Vermunt, 2005, p. 215; Davis & Ponnamparuma, 2005, Friedman Ben-David, Davis, Harden, Howie, Ker, & Pippard, 2001).

Friedman et al. (2001) note that the validity of the inferences made about the portfolio depend on the reliability of the test. If the test scores or ratings suffer from low interrater agreement or poor sampling, inferences cannot be made. Moreover, there should be a clear definition of the purpose of the portfolio and identification of the competencies to be assessed. Webb, Endacott, Gray, Jasper, McMullan and Scholes (2003) and McMullan (2003) cite several criteria that should be used to evaluate portfolio assessments, namely, explicit grading criteria, evidence from a variety of sources, internal quality assurance processes, and external quality assurance processes.

Content validity is important in developing an examination for initial licensure (Chambers, 2004) such that there should be a validation process that inquires whether tasks being evaluated should be representative of tasks critical to safe and effective practice. A recent paper by Patterson, Ferguson, and Thomas (2008) calls for validation by using a job analysis to identify core and specific competencies.

A recent paper entitled "Point/Counterpoint: Do portfolio assessments have a place in dental licensure?" addresses many of these issues specifically as they pertain to the purpose of licensure rather than education (Hammond & Buckendahl, 2006; Ranney & Hambleton, 2006).

Hammond and Buckendahl do not support the use of portfolios for dental licensure. They cite two issues as important in considering the use of portfolio assessments for licensure purposes. First, standardizing the training and evaluation across a broad range of locations would be difficult. Second, demonstrations of abilities in past records would need to be verified so that there is an evaluation of the current range of competencies. These authors contend that the portfolio does not provide an assessment of minimum skills that is administered *independent* of the training program to support licensure decisions;

and therefore, provides no external validation and verification of the students' competence. Moreover, there may be measurement error, or low reliability, within the system as a result of errors in content sampling, number of observations of performance, number of examiners rating the student's performance, assumptions of unidimensional relationships between items, lack of interrater agreement, and reliance on pairs rather than triads of examiners for all students.

In an opposing point of view in the same article, Ranney and Hambleton (2006) support the use of portfolios for dental licensure. According to these authors, testing agencies have published little or no data to allow an assessment of reliability of validity of their examinations. Variability in the reliability of clinical licensure examinations and pass rates among testing agencies may reflect lack of reliability or validity in the examination process, and, omission of skills necessary to practice safely at the entry level, not just changes in student populations. The authors recognize that several criteria would need to be met before portfolio assessment could be implemented. The most important of these criteria are: administration by independent parties, inclusion of a full continuum of student competencies for comprehensive evaluation, and, evaluating competence within the context of a treatment plan designed to meet the patient's oral health care needs. In their discussion, the authors believe that portfolio assessments could work if the developers considered which tasks to measure, how the tasks would be scored, calibration protocols for examiners, and how performance expectations would be set.

INITIAL LICENSURE REQUIREMENTS IN OTHER JURISDICTIONS

According to the American Association of Dental Examiners "Composite" issued in January 2009, virtually all states and U. S. territories require applicants to pass an examination administered by the National Board of Dental Examiners.

- Forty-seven jurisdictions accepted a regional clinical examination, e.g., WREB, SRTA, CRDTS or national clinical, e.g., ADEX, ADLEX.
- Four jurisdictions, other than California, administered a state clinical examination
- Forty-three jurisdictions administered a jurisprudence examination
- Four states, other than California, granted licensure after completion of an accredited, 12-month, postgraduate residency program
- Six states allow applicants to take any state or regional clinical examination; Virginia explicitly states that the clinical examination must use live patients
- Two states (Montana and Utah) accept California's clinical examination

Table 4 – Summary of existing requirements for initial licensure²

State	National Board	Regional clinical	State clinical	Jurisprudence	Other
AL	Y	N	Y	Y	
AK	Y	Y (WREB)	N	Y	
AZ	Y	Y (WREB)	N	Y	
AR	Y	Y (SRTA)	N	Y	
CA	Y	Y (WREB)	Y	Y	PGY-1
CO	Y	Y (CRTDS)	N	Y	
CT	Y	Y (NERB OR DSCE)	N	N	PGY-1
DE	Y	N	Y	Y	DOR
District of Columbia	Y	Y	Y	Y	
FL	Y	N	Y	Y	
GA	Y	Y (CRDTS)	N	Y	
HI	Y	N	N	N	ADEX
ID	Y	Y (WREB, CRDTS)	N	Y	ADEX
IL	Y	N	N	N	ADEX
IN	Y	Y (WREB, SRTA, CRDTS, NERB)	N	Y	
IA	Y	Y (CRDTS, WREB)	N	Y	ADEX
KS	Y	Y (WREB, SRTA, CRDTS, NERB, CITA)	Y	Y	
KY	Y	Y (SRTA, WREB, CRDTS, NERB)	N	Y	ADEX not accepted
LA	Y	Y (CITA, CRDTS, NERB, SRTA, WREB)	N	Y	ADEX
ME	Y	Y (NERB)	N	Y	
MD	Y	Y (NERB)	N	Y	
MA	Y	Y	N	Y	
MI	Y	Y (NERB, DSCE)	-	-	
MN	Y	Y (NDEB, WREB)	N	Y	PGY-1, ADLEX, ADEX
MS	Y	Y	N	Y	
MO	Y	Y (Any state or regional examination)	N	Y	

² Examination acronyms for states which specified regional examinations: ADEX = American Board of Dental Examiners; ADLEX = American Dental Licensing Examination; CITA = Council of Interstate Testing Agencies; CRTDS = Central Regional Dental Testing Service; DOR = Dental Operating Rooms at Naval dental facilities; DSCE = Dental Simulated Clinical Examination; NERB = North East Regional Board; NDEB = National Dental Examining Board of Canada; SRTA = Southern Regional Testing Agency; WREB = Western Regional Examining Board

State	National Board	Regional clinical	State clinical	Jurisprudence	Other
MT	Y	Y (WREB, CRDTS, WREB, SRTA, NERB)	N	Y	State clinical examinations from CA, DE, FL, and NV
NE	Y	Y (CRDTS, NERB)	N	Y	
NV	Y	N	--	Y	ADEX; no licensure by credential
NH	Y	Y (NERB)	N	Y	
NJ	Y	Y (NERB)	N	Y	ADEX
NM	Y	Y (WREB, CRDTS)	N	Y	
NY	Y	N	N	N	CDA approved residency; one-time jurisprudence examination
NC	Y	Y (CITA)	N	Y	Sterilization/infection control examination
ND	Y	Y (NERB, CRDTS)	N	Y	ADEX
OH	Y	Y (CRDTS, SRTA, WREB, NERB)	N	Y	
OK	Y	Y (WREB)	N	Y	
OR	Y	Y	N	Y	Accepts any state or regional examination
PA	Y	Y (NERB)	N	N	ADLEX
Puerto Rico	Y	CITA	Y	Y	CITA in lieu of state clinical examination
RI	Y	Y (NERB)	N	N	
SC	Y	Y (SRTA, CRDTS)	N	Y	ADLEX
SD	Y	Y (CRDTS, WREB)	N	Y	Accepts any state or regional examination for licensure by credential
TN	Y	Y (SRTA, WREB)	N	N	
TX	Y	Y	--	Y	Accepts any state or regional examination for licensure by credential
UT	Y	Y (WREB, SRTA, NERB, CRDTS)	N	N	California state examination, Hawaii examination
VT	Y	Y (NERB, WREB, SRTA, CRDTS, CITA)	N	Y	

State *	National Board	Regional clinical	State clinical	Jurisprudence	Other
VA	Y	Y (SRTA, WREB, DRDTS, NERGE, CITA)	--	Y	Accepts any state or regional examination for licensure by credential (only if live patients used)
U. S. Virgin Islands	--	--	--	--	
WA	Y	Y	N	Y	PGY-1; Accepts any state or regional examination
WV	Y	Y	N	Y	Any state or regional examination
WI	Y	Y (CRDTS, WREB, NERB)	N	Y	ADEX I and II
WY	Y	Y (CRDTS, WREB, NERB)	N	Y	Part IV of ADEX

COMPARISON OF REQUIREMENTS IN THE U.S. AND CANADA

In their 2001 review of dental education and licensure, the Council on Dental Education of the American Dental Association (ADA) compared practices for initial dental licensure in the United States and Canada. Their findings indicate that initial licensure in the United States and Canada are very similar; however, Canada relies on the use of the OSCE, which requires students to answer multiple-choice questions about radiographs, case histories, and/or models in a series of stations. In the OSCE, simulated patients (manikins) rather than actual patients are used as subjects for examination procedures.

Table 5 – Comparison of practices in U. S. and Canada for initial licensure

Requirement	United States	Canada
Graduation from an accredited program	Yes; program is accredited by the ADA Commission on Dental accreditation	Yes; program is accredited by the Commission on Dental Accreditation of Canada
Written examination	Yes: National Dental Board Examinations (NDBE) Parts I and II	Yes; National Dental Examining Board of Canada Written Examination (NDEB)
Clinical examination	<ul style="list-style-type: none"> • Regionally administered clinical examinations Central Regional Testing Services (CRTS); Northeast Regional Examining Board (NERB), Southern Regional Testing Agency (SRTA), Western Regional Examining Board (WREB) offered once to multiple times, depending on the testing agency • 10 states (CA, DE, FL, HI, IN, LA, MS, NC, NV plus Puerto Rico and the Virgin Islands) offer state administered examinations • Each state determines which clinical examination results are accepted for the purpose of licensure • All states require completion of both written and clinical examinations before being eligible for licensure • Some states also require additional criteria such as proof of malpractice insurance, certification in Basic Life Support, or a jurisprudence examination 	<ul style="list-style-type: none"> • OSCE offered three times a year • Quebec requires an NDEB certificate or a provincial examination. • Some provinces require completion of an ethics examination

EXISTING COMPETENCY EXAMINATIONS

As expected, all of the California schools included competencies which met minimum standards set forth by the Commission on Dental Accreditation for predoctoral dental education programs (2008, Standard 2-25, p. 15): “At a minimum graduates must be competent in providing oral health care with the scope of general dentistry, as defined by the school, for the child, adolescent, adult, and geriatric patient, including:

- a) Patient assessment and diagnosis;
- b) Comprehensive treatment planning;
- c) Health promotion and disease prevention;
- d) Informed consent;
- e) Anesthesia, and pain and anxiety control;
- f) Restoration of teeth;
- g) Replacement of teeth;
- h) Periodontal therapy;
- i) Pulpal therapy;
- j) Oral mucosal disorders;
- k) Hard and soft tissue surgery;
- l) Dental emergencies;

- m) Malocclusion and space management; and,
- n) Evaluation of the outcomes of treatment.

Key faculty from each of the five Board-approved schools were interviewed regarding the clinical dimensions of practice assessed in competency examinations within their predoctoral programs. All of the schools provided a list of the clinical competencies assessed during predoctoral training. A list of each school's competency examination is presented in the Tables 6, 7, 8, 9 and 10.

Table 6 – Competency examinations: Loma Linda University

<i>Comprehensive diagnosis and treatment planning</i>	<ul style="list-style-type: none"> • Oral diagnosis examination • Radiology interpretation (FMX pathology) • Radiology interpretation (Normal and errors) • Radiology techniques
<i>Direct restoration</i>	<ul style="list-style-type: none"> • Class II composite resin • Class II amalgam • Class III composite
<i>Indirect restoration</i>	<ul style="list-style-type: none"> • Full gold crown, partial coverage crown, full coverage ceramic crown, fixed partial denture <i>or</i> multiple tooth restoration
<i>Removable prosthodontics</i>	<ul style="list-style-type: none"> • Rest seat preparation • RPD design • CD setup
<i>Periodontics</i>	<ul style="list-style-type: none"> • Preclinical OSCE (5) • Scaling and root planning (2) • Oral health care (2)
<i>Endodontics</i>	<ul style="list-style-type: none"> • Endodontic qualifying examination (to treat patients in clinic) • Endodontic section of Fall mock board • Endodontic qualifying examination (to take WREB)

Table 7 – Competency examinations: University of California Los Angeles

<i>Comprehensive diagnosis and treatment planning</i>	<ul style="list-style-type: none"> • Oral diagnosis • Head and neck examination • Treatment planning • Caries management by risk assessment
<i>Direct restoration</i>	<ul style="list-style-type: none"> • Class II amalgam (2) • Class II composite (1) • Class III composite or Class V composite (2) • Two buildups (core, pin, prefabricated post and core, <u>or</u> dowel core)
<i>Indirect restoration</i>	<ul style="list-style-type: none"> • Two restorations (PFM, bonded ceramic, full gold crown <u>or</u> partial veneer crown)
<i>Removable prosthodontics</i>	<ul style="list-style-type: none"> • Complete denture • Immediate full denture • Removable partial denture • Reline
<i>Periodontics</i>	<ul style="list-style-type: none"> • Periodontal diagnosis and treatment plan • Periodontal instrumentation • Re-evaluation of Phase I therapy • Periodontal surgery
<i>Endodontics</i>	<ul style="list-style-type: none"> • Endodontic case portfolio

Table 8 – Competency examinations: University of California San Francisco

<i>Comprehensive diagnosis and treatment planning</i>	<ul style="list-style-type: none"> • Medical/dental history taking • Infection control • Practice management • Oral diagnosis and treatment planning OSCE • Caries risk assessment • Complete oral examination/treatment planning • Radiology • Emergency • Baseline skills attainment • Pediatric comprehensive oral examination • Outcomes of care
<i>Direct restoration</i>	<ul style="list-style-type: none"> • Class I composite or preventive resin restoration • Class I amalgam • Class II amalgam • Class II composite • Class III or IV composite • Class V composite, glass ionomer <u>or</u> amalgam • Pediatric restorative
<i>Indirect restoration</i>	<ul style="list-style-type: none"> • Mounted diagnostic cast • Die trimming • Casting (PFM, all gold, <u>or</u> all ceramic crown)
<i>Removable prosthodontics</i>	<ul style="list-style-type: none"> • Removable prosthodontics (partial <u>or</u> full denture)
<i>Periodontics</i>	<ul style="list-style-type: none"> • Instrument sharpening • Instrument identification and adaptation • Scaling and root planning
<i>Endodontics</i>	<ul style="list-style-type: none"> • Single-root root canal • Multi-root root canal on typodont

Table 9 – Competency examinations: University of the Pacific

<i>Comprehensive diagnosis and treatment planning</i>	<ul style="list-style-type: none"> • Oral diagnosis and treatment planning
<i>Direct restoration³</i>	<ul style="list-style-type: none"> • Class I resin • Class II resin • Class II amalgam • Class III resin • Class V resin
<i>Indirect restoration</i>	<ul style="list-style-type: none"> • All cases evaluated for case management, buildup (if needed), preparation and temporization • Crown preparation and crown (FVM, PFM <u>or</u> all ceramics) • CIMOE (cementation) • Impression
<i>Removable prosthodontics</i>	<ul style="list-style-type: none"> • Complete denture, immediate complete denture <u>or</u> other removable prosthetic device
<i>Periodontics</i>	<ul style="list-style-type: none"> • Periodontal oral diagnosis and treatment planning • Periodontal diagnostic competency • Calculus detection and root planing • Instrument sharpening • Periodontal re-evaluation
<i>Endodontics</i>	<ul style="list-style-type: none"> • Endodontic radiographic technique • Cleaning and shaping (single canal) • Coronal access anterior • Coronal access posterior • Obturation (single canal)

³All direct restoration cases are evaluated for case management, preparation and restoration. Typically Class III and Class V resins are performed in the anterior segments; several posterior Class II restorations are completed including a mandatory mock board scenario—mixed between amalgam and resin

Table 10 – Competency examinations: University of Southern California

Competency domain	Specific competencies
<i>Comprehensive diagnosis and treatment planning</i>	<ul style="list-style-type: none"> • Oral radiology (OSCE in radiology) • Physical evaluation • Ultrasonic instrumentation/ultrasonic scaler • OSCE in vital signs, extra- and intraoral examination and infection control
<i>Direct restoration</i>	<ul style="list-style-type: none"> • Class II amalgam • Composite restoration (Class II, III, IV, <i>or</i> V)
<i>Indirect restoration</i>	<ul style="list-style-type: none"> • Crown preparation (PFM, full gold, partial veneer gold, <i>or</i> ceramic) • Crown cementation (PFM, full gold, partial veneer gold, <i>or</i> ceramic)
<i>Removable prosthodontics</i>	<ul style="list-style-type: none"> • Preliminary Impression • Outline tray(s)/ custom tray(s) • Final impression(s) • Final survey • Framework try-in (retention/occlusion) • Jaw record(s)/ tooth selection • Teeth try-in/ remount jig • Prosthesis placement/ clinical remount • Final adaptation and articulation
<i>Periodontics⁴</i>	<ul style="list-style-type: none"> • Diagnosis and comprehensive treatment planning • Ultrasonic instrumentation for scaling and root planning • Scaling and root planning • Mock board examination (WREB compatible)
<i>Endodontics</i>	<ul style="list-style-type: none"> • Access • Instrumentation • Obturation

CALIBRATION OF EXAMINERS

During visits to the dental school clinics and interviews with faculty, it was clear that the dental schools did an exceptional job in calibrating their examiners and were consistent in their methodology to ensure that common criteria were used to evaluate students' performance on competency examinations. The faculty were calibrated and re-calibrated to ensure consistency in their evaluation of the student competencies and the processes used by the dental schools for assessing competencies was very similar. In every case, minimum competency was built into the rating scales used to evaluate the students in their competency examinations.

The general rule was that two examiners must concur on failing grades. If there is disagreement between the two examiners, a third examiner was asked to grade the student. One school specifically mentioned that examiners were designated full-time faculty who were familiar with the grading criteria and the logistics of competency examinations. Other schools mentioned that their examiners (part-time and full-time faculty) were provided extensive materials to

⁴ Diagnosis and comprehensive treatment planning, ultrasonic instrumentation, scaling and root planing are performed in the junior year; mock board examination performed in the senior year

read and review prior to hands-on training with experienced examiners. These materials included detailed examiner training manuals, detailed slide presentations (PowerPoint), sample cases, and sample documentation. Hands-on training and calibration sessions were conducted to ensure that the examiners understood the evaluation system and how to use it.

SECTION 11 - REFERENCES

- Albino, J. E. N., Neumann, G. A., Kramer, S. C., Andrieu, S. C., Henson, L., Horn, B., & Hendricson, W. D. (2008) Assessing dental students' competence: Best practice recommendations in the performance assessment literatures and investigation of current practices in predoctoral education. *Journal of Dental Education*, 72, 1405-1435.
- American Association of Dental Examiners Composite (20th ed.). (2009). Chicago, IL: Author.
- American Educational Research Association, American Psychological Association, & National Council on Measurement in Education (1999). Standards for educational and psychological testing. Washington, DC: Author.
- Cascio, W.F. (1992). *Managing human resources* (3rd ed.) New York: McGraw-Hill.
- Chambers, D. W. (2004). Portfolios for determining initial licensure competency. *Journal of the American Dental Association*, 135, 173-184.
- Chambers, D. W., & Gerrow, J. D. (1994). Manual for developing and formatting competency statements. *Journal of Dental Education*, 58(5), 361-366.
- Commission on Dental Accreditation (2008). *Accreditation Standards for Dental Education Programs*. Chicago, IL: American Dental Association.
- Comparative analysis of competencies in the California dental examination and advanced clinical residency programs. (2007). Folsom, CA: Comira.
- Davis, M. H., & Ponnampaperuma, G. G. (2005). Portfolio assessment. *Journal of Veterinary Medical Education*, 332(3), 279-284.
- Dental education and licensure in the United States and Canada: A comparison. (2001). Chicago, IL. American Dental Association, Council on Dental Education and Licensure.
- DOE Handbook: Table-top job analysis. (DOE-HDBK1076-94). (1994). Washington, DC: Department of Energy.
- Driessen, E., van der Vleuten, C., Schuwirth, L., van Tartwijk, J., & Vermunt, J. (2005). The use of qualitative research criteria for portfolio assessment as an

alternative to reliability evaluation: A case study. *Medical Education*, 39(2), 214-220.

Friedman Ben-David, M., Davis, M., Harden, R., Howie, P., Ker, J., & Pippard, M. (2001). AMEE Guide No. 24. Portfolios as a method of student assessment. *Medical Teacher*, 23(6), 535-551.

Hammond, D. & Buckendahl, C. W., (2006). Point/Counterpoint: Do portfolio assessments have a place in dental licensure?: No portfolio assessment should not be used in dental licensure. *Journal of the American Dental Association*, 137, 30-41.

Loma Linda University School of Dentistry: Clinical competency examinations. (2009). Loma Linda, CA: Author.

McMullan, M. (2003). Portfolios and assessment of competence: A review of the literature. *Journal of Advanced Nursing*, 41(3), 283-294.

Patterson, F., Ferguson, E. & Thomas, S. (2008). Using job analysis to identify core and specific competencies: Implications for selection and recruitment. *Medical Education*, 42, 1195-1204.

Ranney, R. R. & Hambleton, R. (2006). Point/Counterpoint: Do portfolio assessments have a place in dental licensure?: Yes, portfolio assessments can be used successfully in dental licensure. *Journal of the American Dental Association*, 137, 30-41.

Webb, C., Endacott, R., Gray, M. A., Jasper, M. A., McMullan, M. & Scholes, J. (2003) Evaluating portfolio assessment systems: What are the appropriate criteria? *Nurse Education Today*, 23, 600-609.

University of California Los Angeles School of Dentistry: Clinical competency examinations. (2009). Los Angeles, CA: Author.

University of California San Francisco School of Dentistry: Clinical competency examinations. (2009). San Francisco, CA: Author.

University of the Pacific School of Dentistry: Clinical competency examinations. (2009). San Francisco, CA: Author.

University of Southern California School of Dentistry: Clinical competency examinations. (2009). Los Angeles, CA: Author.



APPENDIX A – CONSULTANT BACKGROUND

NORMAN R. HERTZ, PH.D.
DIRECTOR OF PSYCHOMETRIC SERVICES

Dr. Hertz is the Director of Psychometric Services at Comira. He is a licensed psychologist with more than 25 years of experience in the measurement field. He received his Bachelor of Arts degree from Baylor University in psychology, and his Master of Science degree in psychology and his Ph.D. in industrial-organizational psychology from the University of Memphis.

He was the managing partner of HZ Assessments, a private psychometric consulting firm that he co-founded after his retirement from the California Department of Consumer Affairs in 2001. He has provided psychometric expertise to national and international organizations and has developed licensing and certification examinations for several western states including California, Washington, Oregon, and Arizona. He has extensive experience in private industry and government settings and has conducted validation studies, developed licensing and certification examinations, and established cut scores for more than 50 professions, ranging from the construction trades to medical specialties. He specializes in conducting psychometric audits of examination programs.

Prior to HZ Assessments and Comira, Dr. Hertz was the Chief of the Office of Examination Resources at the California Department of Consumer Affairs for 15 years. During his tenure at Consumer Affairs, he handled the most sensitive aspects of examination programs for more than 30 boards including expert witness testimony for legislative committees.

He has chaired and presented at the annual meetings of the Council on Licensure, Enforcement and Regulation and the National Council on Measurement in Education and has also co-authored several technical papers and journal articles. He is a member of the American Psychological Association, the Society for Industrial Organizational Psychology, the American Educational Research Association, the National Council on Measurement in Education, and the Council on Licensure, Enforcement and Regulation.

ROBERTA N. CHINN, PH.D
SENIOR PSYCHOMETRIC SPECIALIST

Dr. Roberta Chinn is the Senior Psychometric Specialist at Comira. She has more than 19 years of experience in the measurement field. She received her Bachelor of Science degree from the University of California at Davis in psychology, her Master of Arts degree from the University of the Pacific in experimental psychology, and her Ph.D. in experimental and cognitive psychology from Louisiana State University.

She was a general partner in HZ Assessments, a private psychometric consulting firm that she co-founded in 2001. Prior to HZ Assessments and Comira, Dr. Chinn was a senior psychometric consultant at the Office of Examination Resources at the California Department of Consumer Affairs for over 11 years. During her tenure at Consumer

Affairs, she handled sensitive aspects of examination programs for more than 30 boards and was instrumental in the development of standardized practical examinations, applied law and ethics examinations, and standardized oral examinations.

She has developed licensing and certification examinations for several western states (e.g., California, Colorado, Washington, Oregon, Arizona) as well as for national credentialing organizations (e.g., Commission on Dietetic Registration of the American Dietetic Association, Appraisal Qualifications Board). She has extensive experience in government settings and has conducted validation studies, developed licensing and certification examinations, and/or established cut scores for over 50 professions including commercial and residential appraisers, court reporters, predoctoral and postgraduate dentists, dental auxiliaries, specialty dietitians, structural engineers, engineering geologists, environmental site assessors, fiduciaries, hydrogeologists, pest control personnel, clinical psychologists, ship pilots, pharmacists, clinical psychologists, speech-language pathologists and veterinarians. She specializes in the development of multiple-choice, performance and oral examinations and has developed innovative methods to streamline procedures for job analyses and examination development.

She has chaired and presented at the annual meetings of the Council on Licensure, Enforcement and Regulation and the National Council on Measurement in Education and has also co-authored several technical papers and journal articles. She is a member of the American Psychological Association, the American Educational Research Association, the National Council on Measurement in Education, and the Council on Licensure, Enforcement and Regulation.