Best Practices for Predoctoral Dental Curriculum

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Introduction

Challenges in dental education

Brainstorming ideas to find solutions to the challenges in dental education

Best practices for predoctoral education

Conclusions
In 2005, the American Dental Education Association formed the Commission on Change and Innovation in Dental Education

To build consensus among all stakeholders in dental education, research, and practice by providing leadership to a systemic, collaborative, and continuous process of innovative change in the education of general dentists

To oversee and guide educational change efforts to better prepare graduates for the challenges they would face in their practices of the future
Challenges in Dental Education

- Increase of student tuition and debt
- Decrease of funds for faculty salaries and the associated faculty shortage
- High cost of clinic operations and facilities

Dental Education Programs Must Meet CODA Standards

- Are comprehensive and applicable to all institutions
- Identify the aspects of program structure and operation that CODA regards as essential to program quality and achievement of program goals
- Specify the minimum acceptable requirements for programs
- Provide guidance regarding alternative and preferred methods of meeting standards
Challenges of the Future

- The dental team will be expected to develop their wider health care role
- Skills in offering life style advice (e.g. smoking cessation, diet advice, etc.) will be required
- The dentist as the leader of an oral health care team will be expected to seek opportunities to expand their own and their team’s skills and to negotiate funding contracts with purchasers of their services
- Skills in leadership, management and business will be required

Greater awareness of genomics and proteomics will be required as these new technologies are developing rapidly and will significantly change the future of how dentistry is diagnosed and performed in years to come.

A greatly increased level of technical skill will be required to undertake the advanced crown and bridge, implants, endodontics, and orthodontics.

Challenges of the Future

- The skill set which used to be accepted from a dental graduate will need to be broader and much, much, much higher

PROBLEM

SOLUTION
Brainstorming Ideas to Find Solutions to Challenges in Dental Education

- Methods of achieving CODA standards may vary according to the mission, size, type, and resources of each institution.
- CODA recognizes the importance of academic freedom, and an institution is allowed considerable flexibility in structuring its predoctoral program so that it can meet the standards.
- Innovation and experimentation with alternative ways of providing required training are encouraged, assuming CODA standards are met and compliance can be demonstrated.
Dental School Curriculum Format and Innovations Survey (2009)

- Conducted by the Academy for Academic Leadership and ADEA
- Results showed that the majority of dental schools were involved in learning processes that would build bridges to new models of dental education
- Results showed that the institutional learning had the appearance of being more deliberate and informed than previously
Primary catalysts for change
- Findings of a comprehensive review of the overall predoctoral curriculum conducted by schools
- Student feedback
- Scientific evidence
- Educational best practices reported in the literature
What has changed in dental education over the past years?

- Increase of students' community-based clinical learning experiences
- Students' patient care experience based on a general dentistry concept and students acquire competencies in the dental disciplines in the context of comprehensive patient care
- Implementation of innovative pedagogies with high priority on professional development and training for experienced and new faculty related to innovations in curriculum design, teaching strategies and assessment methods
Beyond the Crossroads: Change and Innovation in Dental Education

- Collection of 22 articles published in the *Journal of Dental Education* by ADEA Commission on Change and Innovation in Dental Education between 2005 and 2009
- Articles have been influential in developing new strategies for faculty development in key areas of teaching, learning and assessment
Best Practices for Predoctoral Education

- Community-based dental education programs
Goals of University of Pittsburgh School of Dental Medicine Student Community Outreach Program and Education

- To create a learning environment where students are able to expand their personal and professional insights
- To increase the workforce of dental professionals who treat underserved and at-risk patients by:
  - Enabling development of cultural competence and communication skills
  - Creating a more empathetic, personally committed dentist
  - Improving willingness to treat underserved patients
  - Creating an atmosphere of community-minded professionals
University of Pittsburgh School of Dental Medicine Student Community Outreach Program and Education

- Gives students both non-dental and dental community-based service experience during three out of four years at the school
- Encourages students to gain an understanding of the principles of service learning and appreciation of community needs
University of Pittsburgh School of Dental Medicine Student Community Outreach Program and Education

- Provides students with a valuable clinical training experience in community-based clinics in rural or urban areas
Students engage in reflective journaling as part of the educational experience

"I knew that there were certain groups in the community that were not obtaining adequate dental care due to financial concerns; however, what I did not anticipate was that through the course of the semester that I would develop such an overwhelming desire to do something about it."

"SCOPE II has been an experience that I could never gain from the classroom or clinics. I think this program benefits us at the right point in our lives because it taught us compassion for all people and I think that this experience will make me a better, more considerate, charitable and a more humanitarian dentist."
"It has opened my eyes to the reality of the world and its injustices. I walk away from the program a person changed for the better and a person who vows to make a difference in her own career."
We have found that healthcare administrators, clinicians, and staff at each of our sites are enthusiastic and highly dedicated to facilitating the personal and clinical growth of our students while fostering improved access to care for their patients.
Best Practices for Predoctoral Education

- Collaborative clinical learning experiences between residents and predoctoral students
Best Practices for Predoctoral Education

- Clinical peer learning experiences
Conclusions

- Dental schools should change their approach to patient care for ethical and practical reasons.
- Appropriate clinical experiences during dental training prepare students to work in a variety of office and community settings.
- Patient-centered, continuous care and student evaluation based on competency rather than numerical requirement should be a high priority for predoctoral education.
#1
Recognize the challenge predoctoral students face in trying to fulfill clinical procedures
ORTHODONTIC CHALLENGES

• Length of Treatment
• Continuity of Care
• Finding Appropriate Pre-Doc Student Cases
• Student Perception
#2
Assess best practices to ensure predoctoral students and residents on the same site share clinical procedures
BEST PRACTICES FOR “SHARING”

• Physically together in clinic
• Create Win-Win for Pre-doc Student and Resident
  • avoid "us vs. them" by making the patient "our" patient
  • encourage behaviors desired in practice
#3
Outline opportunities for collaboration between generalists and specialists in predoctoral education
COLLABORATION OPPORTUNITIES

- Collaborative patient assessment
- Collaborative determination of treatment options
- Determine treat, observation or referral decision based on patient's best interest
- Encourage behaviors desired in practice
# Rotation Requirements Check-Off List

**Graduation Year:__________**

**STUDENT NAME and ID #:__________________________ DATE: ____________**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Signature</th>
<th>Due Date</th>
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</thead>
<tbody>
<tr>
<td>Assist/observe and complete orthodontic screening exam</td>
<td></td>
<td>Monday</td>
</tr>
<tr>
<td>Assist/observe and complete orthodontic screening exam</td>
<td></td>
<td>Tuesday</td>
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<tr>
<td>Referral letter to an orthodontist (using the information from your Monday’s orthodontic screening exam)</td>
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<td>Tuesday am</td>
</tr>
<tr>
<td>Assist/observe and complete orthodontic screening exam</td>
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<td>Wednesday</td>
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<tr>
<td>Competency</td>
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<td>Assist/observe and complete orthodontic screening exam</td>
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<td>Friday</td>
</tr>
<tr>
<td>Place and tie-in archwires</td>
<td></td>
<td>Friday pm</td>
</tr>
<tr>
<td>Untie and remove archwires</td>
<td></td>
<td>Friday pm</td>
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<tr>
<td>Assist with an initial bonding procedure</td>
<td></td>
<td>Friday pm</td>
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<tr>
<td>Observe a Hawley delivery/adjustment</td>
<td></td>
<td>Friday pm</td>
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<tr>
<td>Assist/observe taking initial records (photos, radiographs or impressions)</td>
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<td>Friday pm</td>
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</tbody>
</table>

This form is due on Friday afternoon.
EXAMPLE OF REFERRAL LETTER

Dear Dr. [orthodontist’s name],

I am referring to you [patient’s name] ______, a [patient’s age] year old female/male patient of mine. His/her chief complaint is ____________________________.

Her medical history includes [summarize findings here] ____________________ and her dental history includes [summarize findings here] ____________________. Currently he/she is taking the following medications: __________ [if appropriate, list meds here with dosage and purpose].

The intraoral examination reveals:
Type of dentition, periodontal condition, oral hygiene status, TMJs, molar relationship (left and right), canine relationship (left and right), overbite, overjet, crossbites (with or without functional shift), arch circumference (maxilla and mandible), midlines, and any other relevant finding.

The extraoral examination reveals:
Facial type and structure, profile type (convex, straight, concave), maxillary and mandibular sagittal relationship (retrogнатic, orthognathic, prognathic), face height, tips at rest, incisor and gingival show upon smiling, and any other relevant finding.

Please perform your initial assessment and let me know if any further referrals are needed. I believe he/she would benefit from ____________________________ [comprehensive, orthodontics] ____________________________

Thank you,

Dr. ______________________
Date ______________________
STUDENT RESPONSE

- DDS 6181: 6.4
- Ortho Courses: 6.4
- All Courses: 5.1
STUDENT RESPONSE

Graph Legend
- DDS 6181
- Ortho Courses
- All Courses

Q2: 6.7, 6.7, 6.7
Q3: 6.6, 6.6, 6.6
Q4: 6.5, 6.5, 6.5
Q5: 6.6, 6.6, 6.6
Q6: 6.3, 6.3, 6.3
Q7: 5.7, 5.7, 5.7
Q8: 6.5, 6.5, 6.5
Q9: 6.6, 6.6, 6.6
“The hands-on learning was a great way to get real-life knowledge on the topics and a comfortable environment to be able to ask the residents questions that I had.”

“I would love for the rotation to be more extended with more hands on planning and pt interaction, more referral practicing, maybe start in doing simple cases so we learn how to do things that might be done in private practice by GP!!”
Ortho – Pedo Collaboration

Create Win - Win
UTHealth | School of Dentistry
The University of Texas Health Science Center at Houston
ALLEVIATING TURF WARS IN THE UNDERGRADUATE IMPLANT PROGRAM

“Ensuring that everyone plays well in the sandbox often requires that one thinks outside the sandbox”

Amy L. Ridall, DDS, PhD
Department of Restorative Dentistry and Prosthodontics
OPTIMAL

- Ample patients/implant procedures
- Equivalent costs across the disciplines
- Equally well-trained faculty
- Coordination and teamwork between all disciplines
DIFFICULTIES

• Competition for limited patients/ procedures
• Variations in programs (rotations vs. 3 year programs)
• Variations in operating costs for departments (AEGD vs. school departments).
• Difficulty of patient cases/ length of time for treatment/continuity of care
• Variations in faculty coverage: who is present during treatment planning?
1. Provide clear delineation of tasks/roles: designating which procedures are assigned to specific departments, based on the programs/faculty strengths/weaknesses.

2. Design team-taught pre-clinical didactic courses: OMFS, Periodontics and Prosthodontics

3. Provide CE curriculum for all faculty: updates and “school” procedures.
Clear delineations of tasks

- OMFS, Perio, Prosth, AEGD
- Restoration: Perio, Prosth, AEGD, UG

- OMFS, Perio
- Restoration: Perio, Prosth, AEGD, UG

- OMFS, Perio
- Restoration: Prosth, AEGD

- OMFS, Perio
- Restoration: Prosth, AEGD, UG
OMFS, Perio

Restoration: Prosth
Didactic

- Basic concepts
  Spring 2nd year

- Surgical concepts
  Spring 3rd year

Clinical Experience

- 3rd and 4th year
  Prosth/GP

- Perio surgery assists

- OMFS socket preservation

Other courses

- 3rd year
FACULTY CE

• Training on the “school procedures” and the “school systems”

• Ensuring that ALL faculty can discuss implants as an option. Credentialing system

• Support of the Administration
• Raise level of awareness of implant therapy, from Faculty down to students. “Changing paradigm of implants as a treatment of choice, rather than a treatment of no other choice”

• Oversight/coordination of multidisciplinary program. “sandbox referee”

• Equitable division of cases. “Everyone gets a piece of the pie”
“Thank You”
ADEA Council of Hospitals and Advanced Education Programs: Turf Wars!

JOSEPH A. GIOVANNITTI, JR., DMD

PROFESSOR AND CHAIR
DEPARTMENT OF DENTAL ANESTHESIOLOGY
UNIVERSITY OF PITTSBURGH SCHOOL OF DENTAL MEDICINE
The Department of Dental Anesthesiology is a group of highly committed individuals dedicated to the education and training of dental students, dentists and dentist anesthesiologists in the best principles and practices of dental anesthesiology.
Vision Statement

Our goal is to be the premier academic center for innovation and excellence in dental anesthesiology.

We will:

- Foster ethics and professionalism, and leadership through example
- Dedicate ourselves to excellence in education, patient care, and research
- Strive to always ensure the well-being and safety of all of our patients, with special consideration for children, the elderly and infirm, and those with special health care needs
- Maintain and nurture our interprofessional associations
General Dentists’ Evaluation of Anesthesia Sedation Education in U.S. Dental Schools

General Dentists’ Evaluation of Anesthesia Sedation Education in U.S. Dental Schools

Predoctoral Courses

- Local anesthesia
- Pain and anxiety control
  - Prescription writing
  - Nitrous oxide
- Medical emergencies
  - Didactic
  - High-fidelity human simulation
- Enteral sedation
- Clinical medicine
Selective Courses

- **Intravenous moderate sedation**
  - Conforms to ADA Guidelines
  - Clinical competency available
- **Independent study**
Influence of Additional Predoctoral Anesthesia Education on General Dentists’ Treatment of Patients with Special Needs

Postgraduate Courses

- Medical emergencies
- Principles of sedation and anesthesia

- 3-year dental anesthesiology residency program
  - 4 residents per year
  - CODA accredited
  - GME funded
Dental Anesthesiology Residency Training: Minimum Clinical Experiences

- 800 (500) total cases of deep sedation/general anesthesia to include:
- 300 (200) intubated general anesthetics of which at least 50 are nasal intubations and 25 (20) incorporate advanced airway management techniques
- 125 (100) children age 7 and under
- 75 (50) patients with special needs

(Numbers in parentheses represent the case requirements for previous 2-year training programs)
# Duties of a Dentist Anesthesiologist

<table>
<thead>
<tr>
<th>Predoctoral</th>
<th>Postdoctoral</th>
<th>Service</th>
<th>Research</th>
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<td>Local anesthesia</td>
<td>Medical emergencies</td>
<td>Committee activity</td>
<td>Clinical research</td>
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<td>Pain and anxiety control</td>
<td>Pain and anxiety control</td>
<td>Sedation and anesthesia services</td>
<td>Publications</td>
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<td>Medical emergencies</td>
<td>BLS, ACLS, PALS</td>
<td>Faculty practice</td>
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<td>Clinical medicine</td>
<td>Interdisciplinary teaching and training</td>
<td>Continuing education</td>
<td></td>
</tr>
<tr>
<td>Medical consultation</td>
<td>DA residency direction</td>
<td>BLS, ACLS, PALS</td>
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<tr>
<td>BLS</td>
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