

Program-Level Assessment: Annual Report

Program Name (no acronyms): Graduate Orthodontics

Department: Orthodontics

Degree or Certificate Level: Master

College/School: Center for Advanced Dental Education

Date (Month/Year): 12/2023

Assessment Contact: Ki Beom Kim

In what year was the data upon which this report is based collected? 2022

In what year was the program's assessment plan most recently reviewed/updated? 2022

Is this program accredited by an external program/disciplinary/specialized accrediting organization? Yes

1. Student Learning Outcomes

Which of the program's student learning outcomes were assessed in this annual assessment cycle? (Please list the full, complete learning outcome statements and not just numbers, e.g., Outcomes 1 and 2.)

In our assessment, we gauge student performance through essential tests integral to passing required coursework and via the evaluation of clinical treatment administered to patients. The specific areas assessed encompass a range of crucial skills:

1. Clinical Assessment

- Conducting thorough clinical examinations,
- Proficiently listing orthodontic issues
- Prioritizing identified orthodontic problems
- Recognizing and listing pathology
- Formulating accurate diagnoses
- Devising comprehensive treatment plans
- Executing effective treatments

2. Conducting comprehensive exit interviews

3. Evaluating performance through standardized examinations

4. Administering mid-course and final oral examinations to gauge progress and proficiency.

This multifaceted approach ensures a comprehensive evaluation of our students' abilities across both academic and clinical realms.

2. Assessment Methods: Artifacts of Student Learning

Which artifacts of student learning were used to determine if students achieved the outcome(s)? Please describe the artifacts in detail and identify the course(s) in which they were collected. Clarify if any such courses were offered a) online, b) at the Madrid campus, or c) at any other off-campus location.

The assessment of the learning objectives involved diverse evaluative methods:

- Test Results: Multiple assessments, including tests conducted throughout the program, contributed to evaluating the achievement of learning objectives.

- Clinical Treatment Outcomes: The practical application of knowledge was gauged through the outcomes of clinical treatments performed by students.
- Continuous Instructor Assessment: Ongoing evaluations by individual instructors provided comprehensive feedback on student progress.
- American Board of Orthodontics Test Results: External assessments, such as the American Board of Orthodontics tests, were also used to ascertain the attainment of learning objectives.
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These various methods collectively provided a holistic view of students' mastery of the outlined learning objectives

3. Assessment Methods: Evaluation Process

What process was used to evaluate the artifacts of student learning, and by whom? Please identify the tools(s) (e.g., a rubric) used in the process and **include them in/with this report document** (please do not just refer to the assessment plan).

- Weekly Evaluation Meetings: The Core Graduate Orthodontics Faculty Committee convenes weekly to comprehensively evaluate student performance across didactic and clinical courses, ensuring ongoing assessment and feedback.
- Analysis of American Board of Orthodontics Examination Results: The outcomes from the American Board of Orthodontics written examination undergo thorough analysis based on distinct categories, contributing to the assessment of student proficiency.
- Clinical Skills Evaluation: Proficiency in clinical skills undergoes continuous evaluation:
 - Formative Assessment: Daily verbal feedback aids in the ongoing development of clinical skills.
 - Summative Assessment: A formalized assessment conducted each semester evaluates the culmination of clinical proficiency.
- Annual Review Meeting: The assessment data, including various evaluations and outcomes, is consolidated and reviewed at an annual meeting comprising the entire orthodontic faculty, ensuring a comprehensive and collective overview of student progress.

Clinical Skills Assessment Rubric

Criteria	Exceptional	Proficient	Developing	Needs Improvement
Clinical Examination	Conducts comprehensive and accurate examinations, identifying all issues proficiently.	Conducts thorough examinations, identifying most issues effectively.	Conducts examinations but may miss some crucial details.	Performs incomplete or inaccurate examinations.
Orthodontic Problem Listing	Accurately lists and prioritizes orthodontic problems with precision.	Lists orthodontic problems accurately with minor omissions.	Lists problems with some accuracy but lacks detail or order.	Unable to list orthodontic problems effectively.
Pathology Recognition	Recognizes and lists pathology accurately and comprehensively.	Identifies most pathology accurately.	Identifies some pathology with limited accuracy.	Fails to identify pathology effectively.
Diagnosis Formulation	Formulates precise and comprehensive	Formulates diagnoses	Formulates diagnoses with	Unable to formulate

	diagnoses based on assessments.	effectively with minor omissions.	limited accuracy or detail.	diagnoses effectively.
Treatment Planning	Develops detailed and effective treatment plans based on diagnoses.	Develops treatment plans effectively with minor gaps.	Develops plans but with limited detail or efficacy.	Fails to develop effective treatment plans.
Treatment Execution	Executes treatments proficiently, achieving optimal outcomes.	Executes treatments effectively with minor deficiencies.	Executes treatments with limitations impacting outcomes.	Ineffective execution of treatments.

4. Data/Results

What were the results of the assessment of the learning outcome(s)? Please be specific. Does achievement differ by teaching modality (e.g., online vs. face-to-face) or on-ground location (e.g., STL campus, Madrid campus, other off-campus site)?

The program's learning outcomes have been notably achieved by the residents:

1. Successful American Board of Orthodontics Phase II Written Examination:

All 13 residents achieved success by passing the American Board of Orthodontics Phase II written examination, demonstrating a strong grasp of theoretical knowledge aligned with program objectives.

2. Maintaining High Academic Standards:

All residents upheld the requirement of maintaining a B average across both didactic and clinical courses, meeting the academic standards set by the program.

3. Proficiency in Clinical Skills:

All 13 residents demonstrated exceptional proficiency in clinical skills, unanimously attested by the faculty during a comprehensive evaluation, aligning closely with the skill level of experienced orthodontists.

4. Original Research and Oral Defense:

Each resident conducted and successfully defended an original research project, showcasing their ability to contribute to scholarly work and substantiate their findings through an oral defense, meeting the program's expectations for research competence.

Out of the 13 residents, an impressive 12 residents successfully passed the rigorous Scenario-Based Examination of the American Board of Orthodontics, earning them the prestigious title of Diplomate of the American Board of Orthodontics. This significant achievement solidifies their comprehensive understanding and application of orthodontic principles, further attesting to their mastery of theoretical knowledge and practical skills aligned with the program's objectives.

This exceptional success on the American Board of Orthodontics Certification examination, coupled with their performance in the Phase II written examination, underscores their exceptional competence and dedication to the field. It reaffirms their readiness to excel as proficient orthodontists, meeting and exceeding the program's rigorous standards and learning outcomes.

5. Findings: Interpretations & Conclusions

What have you learned from these results? What does the data tell you?

The results gleaned from these achievements provide profound insights into the program's efficacy and the residents' preparedness:

Program Excellence and Preparation: The high success rate in the American Board of Orthodontics examinations speaks volumes about the program's excellence in preparing residents for professional certification. It serves as a testament to the comprehensive curriculum and robust training methodologies employed, ensuring residents are equipped with the necessary knowledge and skills to excel in their field.

Clinical Proficiency and Faculty Recognition: The unanimous declaration by faculty members regarding the residents' clinical proficiency, aligning with that of experienced orthodontists, underscores the program's success in nurturing exceptional clinical skills. This acknowledgment validates the effectiveness of the program's clinical training protocols and faculty guidance in shaping adept practitioners.

Research and Academic Rigor: The successful completion of original research projects and oral defenses highlights the program's commitment to fostering research competence and maintaining high academic standards. It signifies a culture of scholarly inquiry and academic rigor instilled within the residents, showcasing their ability to contribute meaningfully to the field through original research endeavors.

Individual Dedication and Readiness: Individually, each resident's success across various assessment areas reflects their dedication, competence, and readiness to excel in the orthodontic profession. Their achievements portray a collective commitment to academic excellence, clinical proficiency, and scholarly engagement, paving the way for impactful contributions to the field.

In essence, these results collectively reaffirm the program's holistic approach to education, consistently producing well-rounded orthodontic professionals poised for excellence in their careers.

6. Closing the Loop: Dissemination and Use of Current Assessment Findings

A. When and how did your program faculty share and discuss these results and findings from this cycle of assessment?

The Core Graduate Orthodontic Faculty meets weekly, maintaining ongoing evaluations of student performance. Following the availability of the American Board of Orthodontics Written and Clinical Board Exam results, the faculty thoroughly analyzes these outcomes. Additionally, the faculty conducts individual assessments of each resident's clinical activity.

This structured approach ensures a continuous review of student progress, integrating external evaluation data from the board exams into the faculty's ongoing assessment processes. The Annual Orthodontic Faculty meeting serves as a pivotal forum to merge these insights, enabling a holistic evaluation that factors in both internal assessments and external board examination results. This collaborative and iterative review process facilitates a thorough understanding of student achievements and areas for potential enhancement within the program.

B. How specifically have you decided to use these findings to improve teaching and learning in your program? For example, perhaps you've initiated one or more of the following:

Changes to the Curriculum or Pedagogies

- Course content
- Teaching techniques
- Improvements in technology
- Prerequisites
- Course sequence
- New courses
- Deletion of courses
- Changes in frequency or scheduling of course offerings

Changes to the Assessment Plan

- Student learning outcomes
- Artifacts of student learning
- Evaluation process
- Evaluation tools (e.g., rubrics)
- Data collection methods
- Frequency of data collection

Please describe the actions you are taking as a result of these findings.

The Core Graduate Orthodontic Faculty utilizes performance measures from each segment of the American Board of Orthodontics written exam to drive curriculum and faculty enhancements:

1. Basic and Applied Biomedical Sciences: Lecture updates, particularly in growth and development sections, reflect an alignment with the examination's anatomical sciences, biochemistry, developmental anatomy, facial growth and development, and Microbiology components.

2. Clinical Sciences "A":

Adjustments in course content for temporomandibular disorders and increased hands-on classes respond directly to the examination's Occlusion, Temporomandibular Disorders, X-ray, Cephalometrics, and Applied Topics sections.

Expanded coverage and inclusion of various cephalometric analyses, including 3D analysis, align with the examination requirements.

3. Clinical Sciences "B":

The engagement of external expertise supplements faculty contributions to cover Orthodontic Materials and Techniques, Orthopedics/Biomechanics, Diagnosis and Treatment Planning, Orthodontic Specialties, and Implantology, adhering to the examination standards.

4. Clinical Case Analysis

Alterations in the Diagnosis Seminar format mirror the American Board of Orthodontists' Scenario-Based exam format, enhancing the practical application of knowledge. This revamping involved additions, alterations, and deletions of didactic and clinical courses to align more closely with the examination's expectations, ensuring a more robust educational experience for students.

Additionally, in response to the assessment outcomes, the program made further adjustments by reducing the duration of the Internal Tweed wire bending course. Moreover, it was decided to enhance the educational experience by sending second-year residents to the Charles H. Tweed International Foundation in Tucson, AZ, for a week-long program. This initiative aims to provide residents with an immersive learning opportunity at the foundation, further enriching their orthodontic education.

If no changes are being made, please explain why.

7. Closing the Loop: Review of Previous Assessment Findings and Changes

- A. What is at least one change your program has implemented in recent years as a result of assessment data?

The orthodontic Practice Management course has been extended to two-semester courses and added more content. Multiple faculty members and outside experts have been added to expand the topics. Cephalometric course hours were increased, and more hands-on sections were implemented.

- B. How has this change/have these changes been assessed?

The learning objectives were evaluated through the various test results, classroom discussion, and clinical outcome.	
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C. What were the findings of the assessment?

Our students continue to demonstrate the better understanding of the complexity of orthodontic diagnosis and treatment planning. Based on the American Board of Orthodontics written exam and clinical exam results, our students have shown improvement in terms of their test scores and number of board certifications.	
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D. How do you plan to (continue to) use this information moving forward?

The program director and the Core Graduate Orthodontic Committee meet weekly to evaluate the status of learning outcomes based on the comments from the faculty and discuss the possible ways to improve the outcomes.	
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IMPORTANT: Please submit any assessment tools (e.g., artifact prompts, rubrics) with this report as separate attachments or copied and pasted into this Word document. Please do not just refer to the assessment plan; the report should serve as a stand-alone document.