

CERTIFICATE IN ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS

Program Description:

Director:

David Jones, DDS, MSD, Interim

Faculty:

Steve Billings, DDS; Frank Crist, DDS, MS; Scott Hamilton, DDS, MSD; Genavieve Hendrickson, DDS, MS; Michael Klein, DDS; Steve Malmstrom, DDS; Brad Smith, DDS; Don Wilson, DDS; David Jones, DDS, MSD; Dustin Burleson, DDS; Clarence Simmons, DDS; Jeremy Fry, DDS.

Program Overview

The advanced education program in orthodontics and dentofacial orthopedics has existed since 1946. UMKC Orthodontics Alumni are located in many states and some foreign countries.

This is a full-time, 30-month residency program that begins July 1st. It is designed to prepare the resident for community practice of orthodontics and dentofacial orthopedics. Curriculum emphasis is placed on the edgewise technique and on interceptive and functional treatment. Management of craniofacial anomalies is taught didactically and clinically in association with the craniofacial team at Children's Mercy Hospital. Objective inquiry and statistical validation are emphasized in all aspects of this program. Completion of an original research project and paper is required. The computerized clinic facility is a working-research model that simulates the private practice environment. Courses, clinics, and dedicated research time are organized to facilitate the completion of an MS or PhD degree in Oral and Craniofacial Sciences. A separate application is required for the MS or PhD program after acceptance into the orthodontics residency.

Application and Acceptance

An applicant for this program must be a citizen of the United States or permanent resident in the United States. Applicants must also submit evidence of graduation from a school of dentistry accredited by the Commission on Dental Accreditation or the Canadian Dental Accrediting Commission. A minimum dental school 3.0 GPA and completion of the GRE is required for all applicants.

Applications are considered from the following groups:

- Fourth-year dental students from American Dental Association (ADA) or Canadian Dental Association (CDA) Accredited schools who are in the top 50 percent of their graduating class.
- Graduates of ADA or CDA accredited dental schools who ranked in the top 50 percent of their graduating classes and have satisfactorily completed a general practice residency or other dental specialty program prior to application and successfully passed a U.S. regional or equivalent Canadian clinical licensure exam.
- Graduates of a School of Dentistry who ranked in the top 50 percent of their class and have been in general practices and successfully passed a U.S. regional or equivalent Canadian clinical licensure exam.

Selection of candidates is a twofold process. First, candidates are stratified on the basis of academic and professional performance: GRE scores, class standing, other advanced education program education, practice experience, leadership roles in organized dental groups, dental school teaching, research experience and recommendations are considered. Preferences will be given to individuals who limit their applications to programs participating in MATCH.

Secondly, an appropriate number of applicants meeting screening criteria are invited for interviews. All interviews are conducted at the School of Dentistry on the same day and all invited candidates must attend this session to be eligible for final selection into the class. If offered a position in a class through the MATCH, this offer, like all offers from the University, is contingent upon a successful background screening. In order to begin the background screening, individuals who MATCH must complete a required employment application and background check that is returned to Human Resources within two business days. Three residents are accepted into this program annually. Accepted residents must successfully complete a U.S. regional or equivalent Canadian clinical licensure exam prior to or no later than the end of the first year of residency. Applicants, who have been out of dental school for a year or more, must successfully pass a clinical licensure exam before they start in UMKC's Orthodontic residency.

Application for admission **MUST** be through the ADEA PASS program and completed on or before September 1 of the year prior to planned enrollment. Detailed application information is available at Important Information for Applicants (<https://dentistry.umkc.edu/academics/orthodontics-dentofacial-orthopedics/>).

Stipend

Orthodontic residents will receive a competitive annual stipend paid on a monthly basis.

Tuition and Fees

Estimated tuition and fee costs may be found on the cashier's website (<https://www.umkc.edu/cashiers/tuition-fees/index.html>) (<https://www.umkc.edu/cashiers/tuition-fees/>). There are additional costs for books, laptop computer and required meeting attendance associated with this program.

Instruments

Residents are required to pay an "instrument usage" fee to the school. All instruments are provided and are maintained by the Central Sterilization program of the school.

Financial Assistance

Up-to-date information on additional financial assistance may be found in the school financial aids charts at <https://finaid.umkc.edu/>.

Student Learning Outcomes

Students graduating from this program will:

- Demonstrate diagnostic skills
- Demonstrate an ability to formulate and deliver clinically appropriate and patient specific treatment goals and treatment plan, design and deliver appropriate biomechanics
- Demonstrate the ability to analyze treatment outcomes using high quality (ABO quality) pretreatment, interim, and post-treatment records, including but not limited to photographs, models (digital and/or plaster), radiographs, superimpositions

Student Learning Outcomes

Residents enrolled in the Orthodontics and Dentofacial Orthopedics Advanced Education Program must meet the following student learning outcomes:

1. Demonstrate diagnostic skills:
 - a. Obtain high quality (ABO quality) pretreatment diagnostic records to determination the appropriate facial, skeletal and dental diagnoses related to the morphology of the craniofacial complex in three dimensions
 - b. Coordinate with other medical and dental professionals for additional diagnostic records (including but not limited to MRI, blood work, genetics evaluation) to aid where necessary to determination the appropriate facial, skeletal and dental diagnoses related to the morphology of the craniofacial complex in three dimensions
 - c. Obtain regular and consistent high quality (ABO quality) interim records for periodic updates to determine the appropriate facial, skeletal and dental diagnoses related to the morphology of the craniofacial complex in three dimensions
 - d. Show competency in the use and application of the American Board of Orthodontics Discrepancy Index
 - e. Show competency in the use and application of one or more cephalometric analyses to support and defend the appropriate facial, skeletal and dental diagnoses related to the morphology of the craniofacial complex in three dimensions
2. Demonstrate an ability to formulate and deliver clinically appropriate and patient specific treatment goals and treatment plan, design and deliver appropriate biomechanics for:
 - a. Correction of dentoalveolar malocclusions
 - b. Skeletal and dental malocclusions in the growing patient
 - c. Skeletal and dental malocclusions in the nongrowing patient (i.e. orthognathic surgery and/or craniofacial surgery)
 - d. Interceptive treatment
 - e. Periodontally involved patients
 - f. Interdisciplinary treatment
 - g. Show competency in the use and application of one or more growth assessment methods to support and defend the appropriate use of growth modification via dentofacial orthopedics versus orthognathic surgery
3. Demonstrate the ability to analyze treatment outcomes using high quality (ABO quality) pretreatment, interim, and post-treatment records, including but not limited to photographs, models (digital and/or plaster), radiographs, superimpositions to:
 - a. Accurately assess the facial/soft tissue that occurred during the time treatment was rendered
 - b. Accurately assess the skeletal changes that occurred during the time treatment was rendered
 - c. Accurately assess the dental changes that occurred during the time treatment was rendered
 - d. **Using the above**, accurately assess quality of the treatment outcome. Additional tools that may be used may include the American Board of Orthodontics (ABO) Cast and Radiograph Evaluation (CRE) Form, ABO Objective Grading Scale (OGS) and ABO Case Management Form

Program Requirements

The following learning outcomes have been developed and adopted by the faculty. These goals, skills and knowledge every graduate must demonstrate to qualify for graduation. The Department of Orthodontics and Dentofacial Orthopedics require these outcomes be assessed in

the classroom, the laboratory, and through treatment of clinical cases over the 30-month program. Their competencies are assessed through examinations, presentations of papers, and clinical treatment comprehensive examinations.

1. Demonstrate a commitment to learning, professionalism, societal responsibility, and contributing to generalizable knowledge through research
2. Demonstrate a commitment to the addressing the concerns of patients and the delivery of quality care.
3. Demonstrate the level of proficiency expected of an orthodontic specialist in the areas of diagnosis, treatment planning, and analysis of treatment outcomes.

ACADEMIC REQUIREMENTS

Residents enrolled in the Advanced Orthodontics Program must complete the following requirements:

1. Complete a 30-month program of clinical training, didactic course work, and predoctoral teaching.
2. Maintain a 3.0 GPA for 39 credit hours of core curriculum (see below).
3. Be in attendance for at least the stated working hours of program (8:00 AM to 4:30 PM, Monday through Friday) and all program activities as scheduled
4. Meet all program deadlines and specific course deadlines
5. Meet expected standards of performance.
6. Meet Student Learning Outcomes of the Orthodontics Residency program at the UMKC School of Dentistry.
7. Register for and take the Phase II written examination of the American Board of Orthodontics during the second year of residency.
8. Complete a hypothesis-based research project through dual enrollment in the Oral and Craniofacial Sciences MS program.

RESEARCH REQUIREMENTS

The objectives of the research requirements in the Advanced Education Orthodontic program at the University of Missouri – Kansas City are:

1. To familiarize the residents with systematic methodology of solving problems and making valid conclusions so that they can:
 - a. evaluate scientific literature relative to diagnostic, treatment, and practice methodologies
 - b. select appropriate diagnostic, treatment, and practice methodologies to use in their practice
 - c. solve problems within their practices
2. To meet CODA accreditation guidelines concerning hypothesis-based research.
3. To contribute to the fields of orthodontics, dentistry, and/or science by adding to generalizable knowledge.

All residents complete courses in research methodology and biostatistics. With residents dually-enrolled in the Oral & Craniofacial Sciences program, they will complete their research requirements via the MS degree that is conferred by the School of Graduate Studies. Research requirements for the OCS program are linked to the following courses: BIO-SCI 5751, 5752, 5799 and RES-ME 5703 Thesis Writing. Requirements include developing a hypothesis-based research proposal and completing the research project that leads to a written Thesis and an associated Oral Defense. Requirement specifics and deadlines will be provided to the dually-enrolled residents by the OCS Program Director.

Required Core Curriculum

| Code | Title | Credits |
|--------------|---|---------|
| ORTHOD 5741 | Orthodontics and Dentofacial Orthopedics 1 | 1 |
| ORTHOD 5742 | Orthodontic and Dentofacial Orthopedics 2 | 1 |
| ORTHOD 5743 | Orthodontics and Dentofacial Orthopedics 3 | 1 |
| ORTHOD 5744 | Orthodontics and Dentofacial Orthopedics 4 | 1 |
| ORTHOD 5745 | Orthodontic and Dentofacial Orthopedics 5 | 1-2 |
| ORTHOD 5746 | Orthodontic and Dentofacial Orthopedics 6 | 1 |
| ORTHOD 5747 | Orthodontic and Dentofacial Orthopedics 7 | 2 |
| ORTHOD 5748 | Orthodontics and Dentofacial Orthopedics 8 | 1-2 |
| ORTHOD 5724 | Growth and Development 1 | 1 |
| ORTHOD 5725 | Growth and Development 2 | 1 |
| ORTHOD 5726 | Cephalometric I | 2 |
| ORTHOD 5727 | Cephalometric II | 2 |
| BIO-SCI 5710 | Genetics and Biochemistry of Cranial Facial Biology | 2 |
| BIO-SCI 5739 | Biomaterials for the Dental Specialist | 1 |
| BIO-SCI 5740 | Oral Pathology I | 2 |
| BIO-SCI 5760 | Physiology of Oral Mineralized Tissues | 2 |
| BMS 9701 | Clinical Anatomy of Head and Neck | 2 |

| | | |
|---------------|--|-------|
| RES-ME 5700 | Introduction to Research Methodology | 2 |
| RES-ME 5704 | Introduction to Biostatistics | 2 |
| BIO-SCI 5751 | Elements of the Scientific Method | 1 |
| BIO-SCI 5752 | Research Methods in Oral and Craniofacial Sciences | 2 |
| BIO-SCI 5799 | Research And Thesis | 6 |
| RES-ME 5703 | Thesis Writing | 1 |
| Total Credits | | 38-40 |

UMKC is An Equal Opportunity/Access/Affirmative Action/Pro Disabled & Veteran Employer