University of Minnesota
School of Dentistry
Division of Endodontics
8-166 Moos Tower
515 Delaware St. SE
Minneapolis, MN 55455
Ph: 612-624-9900
Fax: 612-624-7960

Updated: 13 July 2018
**Mission:**

The University of Minnesota School of Dentistry advances health through scientific discovery, innovative education, and the highest-quality care for all communities.

**Vision:**

The University of Minnesota School of Dentistry leads the profession into the future of comprehensive healthcare.

**Core Values**
- Diversity
- Excellence
- Integrity
- Leadership
- Pursuit of Knowledge
- Respect
- Service to All Communities

**Objectives:**

- The School of Dentistry (SOD) recruits, matriculates and retains quality, diverse students to all educational programs.
- The SOD presents quality educational programs incorporating new and appropriate knowledge, technology and skills. These programs ensure student learning resulting in graduates competent in their respective fields. The goal of the predoctoral dental program is to prepare graduates who possess the knowledge, skills and values to begin the practice of general dentistry.
- The SOD devotes time and resources to the discovery and dissemination of new knowledge.
- The SOD serves as a source of continuing education to the dental profession and a resource to the local and global communities.
- The SOD reviews its strategic direction, consistent with those of the University of Minnesota, on a systematic and ongoing basis including regular assessment of its strategic progress.
- The UMN SOD provides quality, patient centered, oral health care within its clinics and its community.
- The SOD supports faculty, staff and students with a congenial, well functioning and pleasant working environment.
- The SOD is fiscally responsible.
Mission of the Division of Endodontics Graduate Endodontics

Educate graduate students in the specialty of endodontics.

Vision of the Division of Endodontics Graduate Endodontics

Graduate endodontic students will become proficient clinicians and leaders in endodontics. They will promote optimal health through education, patient care, research and service.

Goals and Objectives of the Division of Endodontics Graduate

1. Develop clinically proficient endodontists with an evidence-based approach to the practice of endodontics.

2. Prepare graduate students to successfully manage endodontic practices.

3. Develop graduate students for careers in academics and/or research, if they so choose.

4. Promote a career-long interest in continued professional development and lifelong learning.

5. Conduct research projects and contribute to the professional literature.

6. Prepare graduate students to critically review pertinent scientific literature.

7. Prepare and support graduate students to achieve board certification.
The graduate endodontic program is a 26 month course of study that leads to a Master of Science degree and a certificate in Endodontics. A “certificate only” pathway is not available. The program begins around the first of July and finishes at the end of August 26 months later, for example, 1 July 2019 through 31 August 2021.

The program features extensive clinical training encompassing a wide variety of non-surgical and surgical endodontic techniques. The program includes evidence-based didactic and clinical seminars within the Division of Endodontics and courses offered by the basic science components of the university, other departments of the School of Dentistry and visiting professionals. Classical Literature Seminar topics can be found on pages 14-16. In addition to the required graduate level courses, the program requires a master’s thesis based upon an original research project.

The clinical guidelines for the graduate endodontic program are a minimum of 250 non-surgical and 20 surgical endodontic cases. As noted above, graduate students must also complete an original research project and then prepare and successfully defend his/her thesis. Graduate endodontic students must complete of the American Board of Endodontics (ABE) written examination in May/June of the second year of their program. They must successfully challenge the Division’s oral examinations and submit a portfolio of nine cases in the ABE Case History Portfolio format.

Graduate students at the University of Minnesota must maintain a “B” average in all courses. Grades are earned through conventional classroom procedures, oral and written examinations and faculty review of all endodontic cases. Oral examinations are given at the end of each semester within the Division of Endodontics.

Research in Endodontics:

Research is a major component of the graduate program in endodontics. All students are required to complete an original research project and write and defend a thesis as part of the requirements for the M.S. degree. Since most students enter the graduate program with limited research experience, the School of Dentistry offers formal training in the design, conduction, analysis and presentation of a research project. Students take courses, write proposals and make oral presentations in addition to the thesis required by the Graduate School.

Research Objectives:

At the completion of the program, the student should be competent to:
1. Conduct a literature search using the facilities of a large biomedical library including standard indexes of biomedical literature.
2. Write a critical review of literature on a selected research topic.
3. Develop a research protocol that addresses a significant problem in endodontics and arising out of the critical review of literature.
4. Obtain appropriate statistical advice in the design and analysis of a research project.
5. Conduct a straightforward laboratory or clinical study.
6. Write a thesis according to standard guidelines of the Graduate School.
7. Prepare a manuscript for suitable publication in a peer reviewed journal.
8. Organize and present research data in an oral presentation.

** Please see a list of Master's research projects and graduate student publications on pages 17-22 of this handbook.

**Oral Research Presentations:**

1. Research project overview: Students will present an overview of their projects by the end of the Spring Semester of the first year during a Division seminar. The presentation will include the literature review, statement of the problem to be investigated, and a description of methods and statistical methods that will be utilized.
2. Research results: At the end of the Spring Semester of the second year, students will present their research results to faculty and fellow graduate students.
3. Masters Defense: In July or August of the second year, students will defend their master’s research project.

**Teaching:**

Graduate students are required to teach in the Preclinical Endodontics Course offered at the beginning of the dental student’s third summer and second year graduate students teach in the undergraduate endodontic clinic. In addition, students are required to present a lecture during the Preclinical Endodontic Course. The amount of time devoted to teaching is approximately 4.2% of the total program time.

**Presentations at Professional Meetings:**

During their second year, endodontic graduate students are required to present either a table clinic on an endodontic topic or a research poster at the Annual Session of the American Association of Endodontists and at the Minnesota Dental Association’s Star of the North meeting. For the last several years, two of
the first year residents have been able to attend the Annual Session and have been paired with a second year for table clinics.

**Implant Dentistry:**

The most current revision of the Standards for Advanced Specialty Education for addresses Implant Dentistry in the following manner:

4-11 d. The educational program provides instruction at the level of understanding and clinical training to the level of exposure in implant dentistry.

Since the class of 2006, all residents that completed the program at Minnesota have met the standard. If a resident wants to develop clinical skills beyond the exposure level required by the standard, the opportunity is available.

**Private Practice Privileges:**

As a general guideline, endodontic graduate students are not permitted to conduct private practice outside of university during the 26-month duration of the program. Specific financial hardship circumstances will be considered on a case-by-case basis.

**Vacations, Legal Holidays, Sick Leave, and Personal Time:**

The University of Minnesota is closed approximately 10 days per year for university holidays as published in the university calendar. Students are allowed a maximum of 10 days of vacation, sick leave, and personal time annually in addition to the university holidays. During the 26 months of the program, students will be allowed a maximum total of 20 days for vacation, sick leave, and personal time.

**Part-time Faculty:**

The Division of Endodontics receives tremendous support from the local endodontic community. The contributions of the part-time faculty to Division because of the diversity of their backgrounds, training and experiences are a real strength of the graduate program. Please see the link to Faculty and Graduate Student Profiles.
Master of Science Degree Program

1. **Graduate School Requirements:** The Graduate School Catalog contains detailed information concerning registration, degree requirements, program and thesis registration, and other procedures and deadlines. The Director of Graduate Studies and the student's advisor can assist the student in complying with Graduate School procedures, but it is the student's responsibility to meet all Graduate School requirements and deadlines as outlined in the Catalog.

2. **Selecting an Advisor:** Students will be under the general supervision of the Director of Graduate Studies for Dentistry and the direct supervision of the Director of Graduate Endodontics for their coursework. Students should familiarize themselves as rapidly as possible with faculty members in the program through tutorials, seminars and informal contacts, so that they can choose a thesis advisor by the end of their first fall semester in residence. Students may subsequently change thesis advisors with the consent and advice of the Director of Graduate Studies of Dentistry and the Director of Graduate Endodontics. Selection of a thesis advisor is a critical issue, since the research advisor will mentor the student on his/her research project. Tutorials are available with individual faculty members for those students who wish to become familiar with faculty research to aid in selection of a thesis advisor.

3. **Waiver of Core Courses:** Demonstration of previous completion of equivalent course(s) at the University of Minnesota or elsewhere will result in waiving of Core course(s) as appropriate and within the guidelines of the graduate school.

4. **Evaluation of Student Progress:**
   i) **Minimum GPA requirements:** To remain in good academic standing in the Endodontics program, students must maintain a **cumulative GPA of at least 3.0**. This standard is higher than the minimum specified by the Graduate School for Master's degree candidates. A student who does not obtain a GPA of 3.0 in any one semester will be placed on academic probation for the following semester. Students with a cumulative GPA of less than 3.0 for two consecutive semesters will be terminated from the program. Only grades of A or B are acceptable in any Core course. Receipt of a lower grade in a Core course requires repeating of the course.

   ii) **Data requirements:** Students must also satisfy Graduate School requirements for the M.S. degree, as outlined in the Graduate School Catalog.
iii) **Masters Program:**

Students must complete a minimum of 30 credits in their major, including the series of courses in ENDODONTICS. Additional courses for credit in the major will be taken from other departments with assignment from the Director of Graduate Endodontics. Students will/must also complete a minimum of 15 semester credits in one or more related fields outside the major.

The Graduate School requires that the thesis title be submitted as part of the program registration, and should be submitted no later than the end of the second semester in residence. On completion of the research project, under the supervision of the thesis advisor, the student must write and successfully defend a thesis. The Graduate School also specifies registration for a minimum of 10 credits of Thesis Registration (DENT 8777).

Additional information regarding the Graduate School can be found at the following site:

www.grad.umn.edu

**Graduate Endodontics Program Selection Criteria**

The following outline details the selection criteria for admission into the Graduate Endodontics Program:

**Eligibility**

A. Graduates from institutions in the U.S. accredited by the Commission on Dental Accreditation.
B. Graduates from institutions in Canada accredited by the Commission on Dental Accreditation.
C. Graduates of foreign dental schools who possess equivalent educational background and standing.

**Academic Record**

A. Dental school grade point average and class rank
B. National Board scores for Part 1 is required for all applicants. Part 2 is highly recommended.
C. Advanced Dental Admissions Test (optional)
D. Graduate Record Exam (optional)
E. Undergraduate B.S. degree (grade point average and applicable courses)
F. Additional degrees such as M.S. or Ph.D. in microbiology, biochemistry, pharmacology, etc.
G. Awards and honors such as Dean’s Honor List, National Scholarship Award, etc.
H. Letters of recommendation from faculty
I. TOEFL scores - all candidates whose primary language is not English are required to take this examination within two years of the deadline for applications the year that you apply.

NOTE: PASS, MS, Ph.D., AEGD or GPR students in a US institution still MUST have a current TOEFL score if English is not your primary language.

Research and Scholarly Development
A. Collaboration on a research project
B. Authored IADR abstract and presented a paper at a scientific forum
C. Authored or co-authored a paper in a scientific journal
D. Previous work experience as a technician in a scientific laboratory
E. Letters of recommendation from research associates

Clinical Experience
A. Advanced Education Program in General Dentistry (university, Veterans Administration, military)
B. General practice residency (university, Veterans Administration, military)
C. Practice experience (private practice, military, Public Health)
D. Teaching experience such as part-time clinical faculty at a dental school

Career Preference
A. Clinical private practice
B. Academic
C. Research
D. Mixture

Letters of Recommendation
Three letters of recommendation are required as part of the application package.

NOTE: Of the above criteria, academic record and scholarly development are more heavily weighted elements. The faculty feels that these criteria are the most objective representation of a candidate’s ability to handle the heavy didactic demands of the program and complete the research project including the thesis defense process.
Clinical experience is not a prerequisite but it is highly desirable.

**Invitation to Interview**

After preliminary screening of the application packages by the Division’s full-time faculty members, approximately fourteen people will be invited to interview.

**An interview is mandatory.** Therefore, receiving an invitation to interview is a critical step in our process.

The applicants selected for interview will receive an email invitation from the Director of the Division of Endodontics.

**The Interview**

Depending on the year and obligations of the Division, interviews are usually conducted over a one or two day period.

Factors such as poise, sincerity, ability to relate to and work with others, responsiveness to questions, as well as the applicant’s knowledge about endodontics will be considered during the interview.

After the interviews are completed, the Division’s full-time faculty members will make the final decision for acceptance and the four selectees will be notified by the Director of the Division of Endodontics.

**Acceptance Policies and Procedures**

The Division of Endodontics accepts no more than four students each year into the graduate program. Applications for the program must be completed and returned to the Division of Endodontics no later than 01 July of the year prior to the program start date. For example, applications are due no later than 01 July 2019 for the class that will begin 1 July 2020.

**Application Process Point of Contact**

Mrs. Jane Schwensohn  
Executive Administrative Specialist, Division of Endodontics  
Phone: 612-624-9900  
Email: schwe008@umn.edu

It is the applicant’s responsibility to confirm that the Division of Endodontics has received all application materials prior to the deadline of 01 July 2019.

**Incomplete applications will not be considered for interview.**
Financial Aid and Housing

Graduate student stipends are available to a qualified graduate student, which also makes them eligible for resident tuition rates. Financial aid is available to qualifying resident students. Financial aid is not available for international students who have not studied in the United States for at least two years previously.

International students inquiring about available housing, etc. should contact:
  International Student & Scholar Services
  University of Minnesota
  190 Hubert Humphrey Center
  Minneapolis, Minnesota 55455, USA
  Telephone: (612) 626-7110. isss@umn.edu

Tuition and Fees for Grad School 2018

The estimated tuition and fees for 2018 - 19 after adjustments for each of three semesters (fall, spring and summer) are approximately:

  1st year:  $20,698
  2nd year:  $22,186

Currently, there is a resident stipend of $4,953 per year.

There is no life insurance or disability coverage. Single health insurance is available at the student’s expense. Dependent coverage is also available.

Tuition and Fees
http://www.onestop.umn.edu/onestop/Tuition_Billing/Tuition_Rates.html

Tuition rates Graduate School
http://www.onestop.umn.edu/onestop/Tuition_Billing/Tuition_Rates/Graduate_School_Tuition_Rates.html
### REQUIRED COURSES

#### First Summer Session

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Course Number</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endodontic Orientation</td>
<td>ENDO 5300</td>
<td>2</td>
</tr>
<tr>
<td>Head and Neck Anatomy</td>
<td>INMD 7999</td>
<td>3</td>
</tr>
<tr>
<td>Advanced Clinical Endodontics</td>
<td>ENDO 5304</td>
<td>2</td>
</tr>
</tbody>
</table>

#### First Fall Session

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Course Number</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conscious Sedation</td>
<td>DENT 7102</td>
<td>2</td>
</tr>
<tr>
<td>Research Methods</td>
<td>OBIO 5001</td>
<td>2</td>
</tr>
<tr>
<td>Biostatistics I (online)</td>
<td>PUBH 6414</td>
<td>3</td>
</tr>
<tr>
<td>Adv. Study Theory/Prin Oral Med</td>
<td>DENT 7051</td>
<td>1</td>
</tr>
<tr>
<td>Literature Review</td>
<td>ENDO 8310</td>
<td>2</td>
</tr>
<tr>
<td>Clinical Seminar</td>
<td>ENDO 5329</td>
<td>1</td>
</tr>
<tr>
<td>Advanced Endodontic Lecture (Topics)</td>
<td>ENDO 8320</td>
<td>1</td>
</tr>
<tr>
<td>Advanced Clinical Endodontics</td>
<td>ENDO 5305</td>
<td>1</td>
</tr>
</tbody>
</table>

#### First Spring Session

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Course Number</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prin. Mgmt. HS Organization (online)</td>
<td>PUBH 6751</td>
<td>2</td>
</tr>
<tr>
<td>Teaching and Education</td>
<td>GRAD 8200</td>
<td>1</td>
</tr>
<tr>
<td>Literature Review</td>
<td>ENDO 8311</td>
<td>2</td>
</tr>
<tr>
<td>Clinical Seminar</td>
<td>ENDO 5330</td>
<td>1</td>
</tr>
<tr>
<td>Advanced Endo Lecture (Topics)</td>
<td>ENDO 8321</td>
<td>1</td>
</tr>
<tr>
<td>Advanced Clinical Endodontics</td>
<td>ENDO 5306</td>
<td>1</td>
</tr>
<tr>
<td>Advanced Endodontic Emergency</td>
<td>ENDO 5313</td>
<td>1</td>
</tr>
<tr>
<td>Practice Management</td>
<td>DENT 7101</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Second Summer Session

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Course Number</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis Credit: Masters</td>
<td>DENT 8777</td>
<td>3</td>
</tr>
<tr>
<td>Advanced Clinical Endodontics</td>
<td>ENDO 5307</td>
<td>2</td>
</tr>
<tr>
<td>Advanced Endodontic Emergency</td>
<td>ENDO 5314</td>
<td>1</td>
</tr>
<tr>
<td>History and Physical Diagnosis (Optional)</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

#### Second Fall Session

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Course Number</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis Credit: Masters</td>
<td>DENT 8777</td>
<td>6</td>
</tr>
<tr>
<td>Literature Review</td>
<td>ENDO 8312</td>
<td>2</td>
</tr>
<tr>
<td>Clinical Seminar</td>
<td>ENDO 5331</td>
<td>1</td>
</tr>
<tr>
<td>Advanced Endo Lecture (Topics)</td>
<td>ENDO 8322</td>
<td>1</td>
</tr>
<tr>
<td>Advanced Clinical Endodontics</td>
<td>ENDO 5308</td>
<td>1</td>
</tr>
<tr>
<td>Research in Endodontics</td>
<td>ENDO 8004</td>
<td>2</td>
</tr>
<tr>
<td>Grad Oral &amp; MF Pathology</td>
<td>DENT 7061</td>
<td>1</td>
</tr>
</tbody>
</table>
### Second Spring Session

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis Credit: Masters</td>
<td>DENT 8777</td>
<td>4</td>
</tr>
<tr>
<td>Advanced Clinical Endodontics</td>
<td>ENDO 5309</td>
<td>1</td>
</tr>
<tr>
<td>Clinical Seminar</td>
<td>ENDO 5332</td>
<td>1</td>
</tr>
<tr>
<td>Literature Review</td>
<td>ENDO 8313</td>
<td>2</td>
</tr>
<tr>
<td>Research in Endodontics</td>
<td>ENDO 8005</td>
<td>2</td>
</tr>
<tr>
<td>Adv Endo Lecture (Topics)</td>
<td>ENDO 8323</td>
<td>1</td>
</tr>
<tr>
<td>Grad Oral &amp; MF Pathology</td>
<td>DENT 7062</td>
<td>1</td>
</tr>
</tbody>
</table>

### Third Summer Session

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis Credit: Masters</td>
<td>DENT 8777</td>
<td>6</td>
</tr>
<tr>
<td>Advanced Clinical Endodontics</td>
<td>ENDO 5310</td>
<td>1</td>
</tr>
</tbody>
</table>

### Courses Offered Every Other Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral &amp; Max Radiology (next Spr 2018)</td>
<td>DENT 7052</td>
<td>2</td>
</tr>
<tr>
<td>Contemporary Diagnosis &amp; Management of Orofacial Pain (next Spr 2019)</td>
<td>DENT 7021</td>
<td>3</td>
</tr>
</tbody>
</table>
Classic Endodontic Literature
Planner

Summer 2018

1. Pharmacology
2. Guided Endodontic Repair
3. a. Perforation
   b. Resorption
4. Armamentarium and Materials 1: Instruments and Core Materials
5. Armamentarium and Materials 2: Sealers, Temporary Materials, Solvents, Isolation & Bioceramics
6. Armamentarium and Materials 3: Irrigating Solutions, Medicaments & Chelating Agents
7. Oral Exam – (Sep for 2nd Year Residents)

Fall 2018

1. Morphology and Access Preparation
2. a. Diagnostic Procedures
   b. Classification of Pulpal and Apical Pathosis & Treatment Planning
3. a. Management of Endodontic Emergencies
   b. Local Anesthesia
4. a. Preparation 1: Hand Instrumentation Techniques
   b. Ultrasonics
5. a. Preparation 2: Rotary Instrumentation Techniques
   b. Electronic Apex Locators
6. Obturation
7. Surgery 1
8. Surgery 2
9. a. Pulpal Irritants
   b. Vital Pulp Therapy
10. Restoration of Endodontically Treated Teeth
11. Retreatment
12. Oral Exam
Spring 2019

1. Histology, Physiology & Embryology of the Pulpal Dentinal Complex
2. Microbiology 1
3. Microbiology 2
4. Bone Metabolism
5. Inflammation, Immunology 1
6. Inflammation, Immunology 2
7. Inflammation, Immunology 3
8. Outcomes of Endodontic Therapy
9. Trauma 1
10. Trauma 2
11. Apical Pathoses
12. Oral Exam

Summer 2019

1. Pharmacology
2. Guided Endodontic Repair
3. a. Perforations
   b. Resorption
4. Armamentarium and Materials 1: Instruments and Core Materials
5. Armamentarium and Materials 2: Sealers, Temporary Materials, Solvents, Isolation & Bioceramics
6. Armamentarium and Materials 3: Irrigating Solutions, Medicaments & Chelating Agents
7. Oral Exam – (Sep for 2nd Year Residents)
Fall 2019

1. Morphology and Access Preparation
2. a. Diagnostic Procedures
   b. Classification of Pulpal and Apical Pathosis & Treatment Planning
3. a. Management of Endodontic Emergencies
   b. Local Anesthesia
4. a. Preparation 1: Hand Instrumentation Techniques
   b. Ultrasonics
5. a. Preparation 2: Rotary Instrumentation Techniques
   b. Electronic Apex Locators
6. Obturation
7. Radiology
8. a. Cracks & Fractures
   b. Apexogenesis, Apexification & Apical Barriers
9. Surgery 1
10. Surgery 2
11. Retreatment
12. Oral Exam

Spring 2020

1. Histology, Physiology & Embryology of the Pulpal Dentinal Complex
2. a. Endodontic Periodontic Interrelationships
   b. Dentinal Hypersensitivity
3. Microbiology 1
4. Microbiology 2
5. Outcomes of Endodontic Therapy
6. Bone Metabolism
7. Trauma 1
8. Trauma 2
9. Pain 1
10. Pain 2
11. Apical Pathoses
12. Oral Exam
Resident MS Projects and Publications
2004 - Present

Master’s Thesis

2017

Alex Brown
Effect of Placing a Glass Ionomer Restoration before Setting of Grey MTA Furcation Repair Using Micro-computed Tomography

Kristine Knoll
Dimensional Changes and Strain Analysis of Pro-Root White Mineral Trioxide Aggregate, EndoSequence Root Repair Material-Fast Set Putty, and Biodentine During Setting

Michael Regan-Anderson Stationary Introral Tomosynthesis Imaging for Vertical Root Fracture Detection

Tyler Schuurmans
Assessing the Accuracy and Reliability of Root Crack and Fracture Detection in Teeth Using Sweep Imaging with Fourier Transform (SWIFT) Magnetic Resonance Imaging (MRI)

2016

Rhett Finley
Will Topical Application of Alendronate Disodium to Dental Roots Reduce Osteoclast Adherence and Resorption in Vitro?

Phil McKenzie
Microbial Speciation and Time Dependent Killing by Calcium Hydroxide of the Microbiological Community Found in an Immature Necrotic Tooth with Apical Periodontitis.

Chris Saylor
pH Change Following Smear Layer Removal and Final Rinse with 95% Ethyl Alcohol Using Calcium Hydroxide Medicament or BC Sealer.” 2016

Amber Zedler
Dimensional Changes of ProRoot White Mineral Trioxide Aggregate, EndoSequence Root Repair Material, and Biodentine During Setting Using Digital Image Correlation
Sanaz Lavasani
CBCT - Anatomic Analysis of Maxillary Molars: Impact on Endodontic Surgery

Riley Lewis
The Effect of Local Anesthesia and Analgesics in Immediate and 48 hour Post-Operative Pain management of Endodontic Origin

Cynthia Tyler
CBCT - Anatomic Analysis of Maxillary Premolars: Impact on Endodontic Surgery

Steven Wiswall
Local Anesthesia and Analgesics in Post-Operative Endodontic Pain

Brian Barsness
Time Dependent Effects of Contemporary Irrigants on A Polymicrobial Biofilm

Scott Brezinsky
In Vitro Comparison of PFM Crown Retention Following Endodontic Access and Subsequent Restoration: Composite, Amalgam, Amalgam with Composite Veneer, and Fiber Post with Composite

Daphne Chiona
Cone Beam Computed Tomography-Anatomic Analysis of Mandibular Posterior Teeth: Impact on Endodontic Microsurgery

Tyler Peterson
Comparisons of the Shaping Abilities of Three Niti File Systems Using Rotational Versus Reciprocal Movements

David Goerig
Glide Path Preparation of Nine Instrument Systems and Their Effect on Final Canal Area in Simulated Canals

Laura Milroy
An Apical Anatomical Investigation of the Mandibular Incisor Teeth Using Cone Beam Computed Tomography
Carolina Rodriguez
Spectrophotometric Determination of Irrigant Extrusion Using Passive Ultrasonic Irrigation, EndoActivator or Conventional Irrigation

2012

Nick Anders
Time Dependent Effects of Iodine Potassium Iodide (Iki) on a Polymicrobial Biofilm

Tom Nguy
The Effects of Taper Size on the Fracture Resistance of Root Sections

Jason Read
The Effect of Ibuprofen on Masking Endodontic Diagnosis

2011

Sara Barsness
Anatomic Investigation of the Roots of Second Mandibular Molars using Micro CT

Samantha Harris
Anatomic Investigation of the Roots of Mandibular First Molars using Micro-computed Tomography

Mark Phillips
A Quantitative Titration Model For Evaluating Calcium Hydroxide Removal Techniques

Andrew Wiswall
Palatal Anesthesia: Comparisons of Four Anesthetic Techniques for Decreasing Injection Discomfort

2010

Bierma, Mark
Heat Testing Methodology Comparison

Meade, Brian
An In Vitro Assessment of the Setting Expansion of Gray and White Mineral Trioxide Aggregate
Wiswall, Jeff
Quantitative Digital Assessment of Periapical Healing

2009

Bogle, John

Eggleston, Gary
Intranasal Ketorolac versus Placebo for the Control of Endodontic Pain.

Petrino, Joseph
Identification of Canal Systems and Comparison of Canal Systems in Contralateral Teeth by Cone Beam Computed Tomography

Shambarger, Sandra
The Prevalence of Furcation Canals in Molars – Before and After Simulated Periodontal Therapy

2008

Boda, Kendra
The Effect of Time on the Sealing Properties of Pre-mixed Roth’s 801 Sealer: An in vitro Study

Maillet, Michelle
Cone Beam Computed Tomographic Evaluation of Maxillary Sinusitis of Odontogenic Origin

Richards, Jonathan
Amalgam Restorations as a Source of Possible Error During Electrical Pulp Testing

Van Nieuwenhuyzen, Duane
An in vitro Evaluation of the Sealing Ability of a Newer Glass Ionomer Based Root Canal System

2007

Attar, Sayeed
Evaluation of Pre-operative Liquid Ibuprofen Versus Table Ibuprofen for the Management of Post-treatment Endodontic Pain
McCarthy, Patrick
Frequency of Localization of the Painful Tooth by Patients Presenting for an Endodontic Emergency

Ryan, Jeffrey
Evaluation of Pentazocine for the Management of Postoperative Endodontic Pain: A Randomized Controlled Trial

Turner, Casey
Evaluation of Intranasal Administration of Ketorolac for the Management of Postoperative Endodontic Pain

2006
Anderson, Gerald
Efficiency and Effectiveness of Fiber Post Removal Using Three Techniques

Kinsey, Levi
Effect of the Intracanal Irrigant MTAD on Bond Strength of Resin Cements within the Canal

Matwychuk, Michael
Shaping Abilities of Two Different Engine Driven Rotary Nickel Titanium Systems and Stainless Steel Balanced Force Techniques in Mandibular Molars

Tulkki, Michael
The Antimicrobial Activity of Sodium Hypochlorite, MTAD, and Activated Bromine on a Bacterial Biofilm of *E. Faecalis*

2005
Fravel, Ben
Evaluation of Pre-treatment Ibuprofen and Bupivacaine for the Management of Post-treatment Endodontic Pain

Juridini, Badri
Evaluation of Pentazocine for the Management of Post-Treatment Endodontic Pain

Knaup, Deborah
In Vitro Cytotoxicity Evaluation of a New Methacrylate Resin Sealer

Maines, Jason
The Cytotoxic Effects of Activated Bromine on cultured Human Fetal Osteoblasts
2004

Anderson, Glenn
A comparison of two different engine-driven rotary nickel-titanium systems and stainless steel step back techniques on root canal area change and canal transportation in curved canals.

Chong, Carolyn
An Evaluation of the Tissue Dissolution Ability of Sodium Hypobromite

Doyle, Scott
Retrospective Cross-Sectional Comparison of Initial NSRCT and Single-Tooth Implant Restorations

Sulte, Heather
The Effect of Activated Bromine vs. Sodium Hypochlorite on Select Endodontic Microflora

Refereed Abstracts


**Refereed Articles**


Graduate Table Clinic Competitions
Since 2006

2018 – AAE 2018, Denver, CO

7th Place – Russell Bienias and Brandon Penaz
Title: Adjunctive Use of Dental Analogues and Orthodontic Forces in Autotransplantation

2017 – AAE 2017, New Orleans, LA

6th Place – Michael Regan Anderson and Katie Divine
Title: A Novel Treatment for Palatogingival Groove: Extraction and Replantation with Emdogain® Treatment

2015 – AAE2015, Seattle, WA

8th Place – Riley Lewis and Chris Saylor
Title: Treatment Decisions: When Prevention Is Not an Option

2014 – AAE2014, Washington, DC

9th Place – Scott Brezinsky and Sanaz Lavasani
Title: Effects of Various Gutta-Percha Solvents on Non-Latex Dental Dam Materials

2012 – AAE Annual Session, Boston, MA

4th Place - Jason Read
Title: Myofascial Pain: Case Report Involving Neuropathic Pain Clinically Demonstrating as Tinnitus

7th Place - Tom Nguy and Carolina Rodriguez
Title: Bonding of Composite to Porcelain of Crowned Teeth for Extrusion and Splinting of Traumatized Teeth: A Case Series

2011 – Star of the North Dental Meeting, St. Paul, MN

1st Place - Sara Barsness and Tom Nguy
Title: Repair of External Resorption Defects Using MTA Placed with Ultrasonic Activation: A Case Series
Graduate Table Clinic Competitions
(Continued)

2011 – AAE Annual Session, San Antonio, TX

2nd Place - Sami Harris and Mark Phillips
Title: Tooth discoloration following revascularization: a case series in prevention and treatment of the "blue tooth" effect

8th Place - Andrew Wiswall and Nick Anders
Title: A Novel Approach to Irrigation of the Root Canal System During Root Endo Surgery

2010 – Star of the North Dental Meeting, St. Paul, MN

1st Place - Jeff Wiswall and Brian Meade
Title: Separated Instrument Retrieval Using Indirect Ultrasonic Energy – The Peters’ Technique

2010 – AAE Annual Session, San Diego, CA

1st Place - Jeff Wiswall and Brian Meade
Title: Separated Instrument Retrieval Using Indirect Ultrasonic Energy – The Peters’ Technique

2009 – Star of the North Dental Meeting, St. Paul, MN

1st Place - Joe Petrino and Sandra Shambarger
Title: Challenges of Regenerative Endodontics

2nd Place - Gary Eggleston and John Bogle
Title: Ridge Preservation Following Tooth Extraction in the Endodontic Office

2009 – AAE Annual Session, Orlando, FL

3rd Place - Gary Eggleston and John Bogle
Title: Ridge Preservation Following Tooth Extraction in the Endodontic Office
Graduate Table Clinic Competitions (Continued)

2008 – AAE Annual Session, Vancouver, BC

1st Place - Kendra Boda and Michelle Maillet
Title: Maxillary Sinus Fungal Ball – Endodontic Implications

3rd Place - Jon Richards and Duane Van Nieuwenhuyzen
Title: Osteonecrosis of the Jaw and Bisphosphonates: Endodontic Considerations

2007 – AAE Annual Session, Philadelphia, PA

6th Place - Pat McCarthy and Casey Turner
Title: Diagnosis of a Large, Progressive Maxillary Lesion: A Case Report

8th Place - Sayeed Attar and Jeff Ryan
Title: Unusual Presentation of Trigeminal Neuralgia

2006 – Star of the North Dental Meeting, St. Paul, MN

1st Place - Levi Kinsey
Title: Resilon – What is the Latest Research?