



*André K. Mickel, D.D.S.,
M.S.D., '91, '94*

From the Chairman

As everyone is aware, we are blessed to be a part of one of the finest dental schools in the country. Our graduates go on to become leaders in the field of endodontics and bring healing and happiness to multitudes of patients, and for that we should all be justifiably proud.

But, the facts of life are that the financial costs are high to maintain our standards of educational excellence, conduct sophisticated research, and purchase new equipment to sustain advanced training. For example, the endodontics department offers IV sedation training in the clinic, and all our residents are certified in IV sedation after two years. Most other schools don't offer this. It's one of the many experiences that sets our school and our department apart, but, of course, it comes with a price tag.

That's why fundraising is very important to us in the endodontics department. Although we appreciate all the generous support that we do receive, the fundraising in our department has, unfortunately, been lagging for the past few years. Therefore, although no one likes to "talk money," I feel that I must encourage everyone to give to the Molar Club.

Pursuing dentistry has given many of us a very good life. If you are enjoying your life and making a good living, please give back to your school! We want today's students to have the finest education, just as you received — which was in part thanks to the generosity of others. Please consider a gift of \$100 per month; it would be so important for us, and \$100 per month likely would not present a hardship for many of our very successful alumni.

More information about the Molar Club can be found in this newsletter, please read it and consider supporting your alma mater. And please know that we really mean it when we say every gift truly makes a difference. Thank you very much.

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Endodontist Kenneth Chance, D.D.S. '79, Named Dean of School of Dental Medicine



Kenneth Chance, D.D.S., '79, has been appointed by the CWRU Board of Trustees as the Dean of the School of Dental Medicine. The appointment became effective July 1.

A professor and chief of endodontics at the University of Kentucky since 2000, Dr. Chance previously was Dean of the School of Dentistry at Meharry Medical College in Nashville. In addition, he spent 15 years on the faculty of the University of Medicine and Dentistry of New Jersey (UMDNJ), now part of Rutgers University).

"We're proud and excited that Dr. Chance is an alumnus and an endodontist, and will be housed in the Department of Endodontics," said Department Chairman Andre K. Mickel, D.D.S., M.S.D., '91, '94.



Introducing New Fellows and Residents

One-Year Fellows



Divya Sharma

Divya Sharma received her B.D.S. from Government Dental College & Hospital, Patiala,

India. "CWRU is one of the pioneer institutes in the field of dental medicine so I applied here for observership," she says. "During my observership I realized that this is the place where I want to pursue my post-doctoral course." She is very interested in revascularization and regeneration of pulp. Her husband is a resident at St. Vincent Charity Medical Center.



Daisy Bachala

Daisy Bachala comes to the department from Secunderabad, Andhra Pradesh,

India, where she attended Nalanda Jr. College (2006) and worked at Sri Sai Dwarakamai Dental Hospital starting in 2012. She was raised in Hyderabad, Andhra Pradesh, India and received her B.D.S. from Sri Sai College of Dental Surgery in 2012.



Martina Gerges

Martina Gerges attended Ain Shams University where she received her B.D.S. in 2012.

While there she was awarded a scholarship and a two-week Fellowship to the University of Western Australia. After graduation she was awarded a dental internship to the CWRU School of Dental Medicine. Her husband, Peter Amin, is a resident in the CWRU periodontics post-doctorate program.

Meet the Incoming Residents



Galen Geraets

Galen Geraets earned his D.D.S. from the CWRU School of Dental Medicine. He owns a private practice in Fort Collins, CO focused on IV sedation and the fearful. His interests include

cone-beam computed tomography imaging and regeneration. He says the CWRU School of Dental Medicine "has a very strong endodontics program that really prepares you for board certification and becoming a Diplomate of the American Board of Endodontics." He and his wife have three girls, ages 7, 6, and 3.



Isaac Pratt

Isaac Pratt received his D.D.S. from Meharry Medical College, but says an opportunity to be taught by alumni of the CWRU School of Dental Medicine led him to pursue his endodontics

residency here. "Exposure to their work ethics, humility, and selflessness to share their wealth of knowledge left me immensely grateful and thrilled," he says. "I am excited for the future and the role the CWRU School of Dental Medicine will play in helping me become an excellent endodontist."



Long Nguyen

Long Nguyen received his D.M.D. from the CWRU School of Dental Medicine, and also completed a one-year fellowship in the post-doctorate endodontics program at CWRU. He

was born in Ho Chi Minh City, Vietnam. "The CWRU School of Dental Medicine provided me with much-needed clinical experiences that allowed me to become a competent clinician," he says. His main areas of interest are apical surgery and regeneration.



Mina Rizk

Mina Rizk has been practicing general dentistry for the past seven years in Egypt and Qatar. He received his B.D.S. from Ain Shams Dental School in 2007, where he also did postgraduate

studies in endodontics (2010) and prosthodontics (2011). He says he chose CWRU for his endodontics residency because the school has one of the strongest endodontic programs in the country. He also enjoys the diversity in the school. He is interested in clinical research and his goal is to become board certified.

Endodontics Department **RESEARCH PROJECTS**

Carol Ayoub

The Prevalence of Pulpal Necrosis and Symptomatic Irreversible Pulpitis in Teeth Restored with Crowns, Composites and Amalgams Within One Year of Restoration

The purpose of this study was to investigate the prevalence of the most common pulpal diagnoses in teeth within one year of their specific restoration placement. It was found that the prevalence of pulpal necrosis was 50% for crowns, 53% for composites, and 17% for amalgams. The prevalence of symptomatic irreversible pulpitis was 33% for crowns, 33% for composites, and 83% for amalgams. Furthermore, the pulpal necrosis of crowned teeth occurred within six months, compared to one year for amalgam-restored teeth.

Mohammad Bakkar

Detection of Human Beta Defensin 2 and 3 (HBD) in the Dental Pulp by Enzyme-Linked Immunosorbent Assay (ELISA)

Human Beta Defensin (HBD) is a small cationic antimicrobial peptide made by epithelial cells. HBDs play an important role in the early host defense against Gram-positive and Gram-negative bacteria, mycobacteria, fungi and enveloped viruses. Although the expression of HBD in the pulp has been previously reported, little is known about whether the difference in pulpal diagnosis would affect the HBD level. This study found that expression of HBD 2 and 3 was significantly higher with symptomatic irreversible pulpitis than asymptomatic irreversible pulpitis and normal pulp.

Jarid Burley

The Effect of Demographics on the Desire for Sedation and the Relationship Between Specific Endodontic Terminology and Patient Anxiety

This study found adult patients under age 35 were more likely to report interest in sedation for root canal treatment compared to patients over 35. Patients who reported annual income levels below \$30,000 had more interest in being sedated than those above \$30,000. Females were more interested in sedation than males. Patients reporting lower levels of education had greater interest in sedation. In addition, patients associated less anxiety with the specific term "endodontic therapy" than "root canal."

Candace DeVeaux

Mutagenic Effects Of A New Irrigant Mixed With Commonly Used Irrigants in Endodontic Therapy

QMix is a new irrigant that has been tested for its antibacterial and smear layer removal properties. The objective of this research was to assess the mutagenicity of endodontic irrigants in conjunction with QMix. The researchers found that QMix demonstrated no mutagenicity when used in combination with 6% NaOCl, 17% EDTA, Chloroform, and 2% Chlorhexidine, therefore it is not necessary to rinse with sterile water between these irrigants to avoid mutagenic effects.

Robert (Yoo Kyeom) Huh

Assessment of Factors Influencing Patients' Demands for Sedation in Endodontics

The purpose of this study was to assess patients' awareness and the potential demand for sedation in endodontics. Of the patients in this study, 48% reported their perception of sedation was being put to sleep, and 35% reported it as relaxation or reducing pain. Half of the patients reported having previous experience of root canal therapy, of which 60% of them would prefer to be sedated during the procedure if sedation were available. Common concerns that patients associated with root canal therapy were as follows: pain 65%, fear of needles 28%, difficulty getting numb 16%, and claustrophobia 13%.

Sarah Kwang

The Critical Time-Lapse between Various Restoration Placements and Subsequent Endodontic Intervention

The aim of this study was to investigate the time-lapse of endodontic treatment subsequent to restorative treatment: amalgam, composite and full-coverage restorations. An analysis of 10,666 patients found that of the population that required endodontic treatment subsequent to restoration placement, non-surgical root canal therapy was initiated within four months (71.4%), eight months (8.16%), and 12 months (7.14%). Furthermore, composite restorations were 1.83 times more likely than amalgam or full coverage restorations to require root canal treatment within a one-year time period.



Pranali Patil

Determination of Mutagenicity of Precipitates Formed by Endodontic Irrigants Using Reverse Mutation in Mutant *Salmonella Typhimurium* Bacterial Strains TA100 and TA98

The purpose of this study was to determine mutagenicity of precipitates/solutions formed by different combinations of endodontic irrigants. The researchers found that mutant *Salmonella Typhimurium* strains when exposed to mutagenic solutions under certain conditions underwent reverse mutation from histidine auxotrophy to prototrophy, allowing growth of the bacteria. The precipitates formed by 6% NaOCl, 17% EDTA, 2% Chlorhexidine and Chloroform did not show mutagenic potential, which suggests that they can be safely used within the root canal system.

Bernardo Sarmiento

LL37 Levels In Inflamed Dental Pulp Tissues: An In Vitro Study

LL37 is an antimicrobial peptide that shows antimicrobial activity against bacteria, fungi, and viruses, and inhibits lipopolysaccharide bioactivity. This research assessed the levels of LL37 in teeth diagnosed with symptomatic irreversible pulpitis, asymptomatic irreversible pulpitis, and normal pulp. It was found that LL-37 expression was significantly elevated in patients with inflamed pulp when compared to normal pulp, and that the concentration of LL-37 in the pulp tissue was higher in symptomatic irreversible pulpitis than asymptomatic irreversible pulpitis.

Endodontics program graduate named regional director of AAE

Kimberly A.D. Lindquist, D.D.S., M.S.D. '05, has been named District VI director of the American Association of Endodontists.



Dr. Lindquist graduated from the University of Minnesota School of Dentistry and completed a GPR at the VA Medical Center in Minneapolis. After practicing general dentistry for 10 years, she completed her graduate endodontic training at the CWRU School of Dental Medicine.

A Diplomate of the American Board of Endodontics, Dr. Lindquist is president of the Northeastern District Dental Society and past president of the Minnesota Association of Endodontists. In addition to maintaining a private practice in Duluth, MN, she also is an assistant adjunct professor for the University of Minnesota School of Dentistry.

The American Association of Endodontists, headquartered in Chicago, represents more than 7,500 members worldwide. District VI represents Alaska, Colorado, Hawaii, Idaho, Iowa, Kansas, Minnesota, Missouri, Nebraska, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming and Guam.

Changing Pain Into Healthy Smiles Sparks Love of Endodontics

The professional and personal gratification that comes from helping relieve patients' pain is what drew Nivine El-Refai, B.D.S., D.D.S. '98, M.S.D. '00, to endodontics.

"I chose to specialize in endodontics because it's the one dental specialty where you see people in severe pain and as they're leaving your office they're so grateful that you helped them eat, sleep, and resume normal daily activities," Dr. El-Refai says. "It's extremely gratifying to see the sense of relief in patients' eyes after you have resolved the pain that they might have been suffering with for weeks or even months."

A native of Egypt, Dr. El-Refai earned her B.D.S. from the Faculty of Oral and Dental Medicine, Cairo University, in 1992, and was working on her Master's in endodontics and crown and bridge in 1995 when she moved to Medina, Ohio. Dr. El-Refai was drawn to the Case Western Reserve University School of Dental Medicine by the Advanced Standing Program, and after earning her degrees from CWRU she set up a private practice in Medina.

"I enjoy doing endodontics," she says. "I like that the outcomes are controlled by the operator — unlike some other specialties where the results depend on patient compliance. I also like that every tooth presents a different and unique challenge."

Dr. El-Refai volunteers as an instructor at the School of Dental Medicine one day per week. Being a "hands-on" endodontist, she enjoys helping students with the clinical aspects of the specialty, assisting them and guiding them on cases.

"Endodontics is a very high-tech field where everything is constantly advancing," she says. "It seems like every six months new equipment and materials are introduced that change the way we do things."

Dr. El-Refai notes that volunteering at CWRU helps her stay up-to-date on the very latest research in the field, adding that it's important to always look at the



Nivine El-Refai, B.D.S., D.D.S. '98, M.S.D. '00

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evidence-based research when evaluating new findings. Two areas she finds particularly interesting are advances in microbiology — "we are targeting microorganisms we didn't even know existed 20 years ago," she says — and regenerative endodontics.

According to Dr. El-Refai, the beauty of the CWRU School of Dental Medicine is that it gives students access to all the latest high-tech equipment and research, and follows an interdisciplinary approach that benefits both the student and the patient. "It's a team effort," she says. "All the disciplines get together to provide the best treatment outcome for the patient."

Dr. El-Refai feels fortunate to have discovered her love of endodontics. Her advice for students is to explore all the fields of dentistry to see which field they really enjoy. "If they love what they do," she says, "they'll not only excel in it, they'll never feel like they're working at all."

In her spare time, Dr. El-Refai enjoys spending time with her family and — true to her love of endodontics — attending CE courses globally to share ideas with other endodontists from all over the world.



SCHOOL OF DENTAL MEDICINE

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Please Support The Department of Endodontics!

Dear Friends:

This 2013-14 academic year was distinguished by much excitement, continued success, and great momentum for the Department of Endodontics at the School of Dental Medicine. If the passion for the School of Dental Medicine expressed by our alumni, students, and faculty is any indicator, our school is well positioned for a bright future.

To continue the momentum and to help build upon our success; I invite you to partner with the Endodontics Department by way of the following opportunities:

- Engage: The School of Dental Medicine has created many opportunities for alumni and friends to attend regional and local receptions. By visiting the website at <http://dental.case.edu/alumni/news/events/> you will see an event schedule detailing the receptions for the school nationally — including receptions in your region.
- Support: Make your Annual Fund gift today. Our ability to compete for the best and brightest students, faculty, and staff — the core of a great endodontics program — depends heavily on support from alumni and friends like you. Please consider making a gift to support the Department of Endodontics. You may make a gift online at <http://dental.case.edu/alumni/support/>.

Our ability to fund research initiatives, equipment and technological upgrades, and programmatic expenses for the department will have a direct impact on our future success. You are welcome to direct your gift to our special Molar Club fund or to the Endodontic Discretionary Fund.

Our alumni are the best testimony to the quality and value of a CWRU School of Dental Medicine education. Your participation with the Endodontic Department will help us continue to offer students a more meaningful educational experience, strengthen our extraordinary faculty, and provide patients the highest standard of care.

Thank you for your consideration. Every gift truly makes a difference. Should you have any questions, please contact Megan Juby, Director of Development, at 216-368-3481 or megan.juby@case.edu.

Sincerely,

A handwritten signature in cursive script that reads "Andre K. Mickel".

Andre K. Mickel, D.D.S., M.S.D., '91, '94
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