



André Mickel, DDS, MSD, '91, '94

From the Chairman

Like many of you, I hold the strong belief that giving back to one's community—be it your personal, professional, academic or faith-based community—is essential. Not only does it benefit the myriad organizations and individuals who make up these communities, but it also provides each of us with a very unique sense of belonging and pride that only comes with serving others.

We are very fortunate to be part of a dental school that has always placed a high value on giving back to the community. Our residents are given the very special opportunity to work with students in the Cleveland Metropolitan School District, providing them with sealants and oral health education as part of our school's Healthy Smiles program. For many of these children, this is their first experience with oral health care.

You may not be aware that our school also participates in Health Legacy Cleveland, whose aim is to increase the pool of minority dentists and physicians in Northeast Ohio. I am honored to have served as immediate past president of this wonderful organization.

We recently hosted the participants of the Charles R. Drew Saturday Academy. This high school pipeline program for motivated students in grades 10 through 12 is designed to increase representation of American Indian, African American, Hispanic/Latino and Native Hawaiian/Pacific Islander dentists, dental specialists, physicians, research scientists, physician investigators and physician leaders. A collaborative initiative between Health Legacy of Cleveland, Inc. and Cleveland Clinic, it provides participants with career information and critical skill sets to support their matriculation through higher education, dental or medical school and beyond. Students engage with health care professionals to gain an inside view of the fields of dentistry, medicine and science.

The 12-week program includes visits to a variety of locations, including our own dental school, which hosted the group on February 27. I was not only honored to be the featured speaker at the students' visit to our school, but was truly inspired by their energy and their quest for a future filled with learning, discovery and growth. Read more in this newsletter about Dentistry Day.

Giving back can take many forms and we are fortunate that Herbert Litton, DDS '66 recently donated a Global Surgical Microscope to our department. This equipment is on a mobile unit stand and includes an observer station and a video hookup, which will be extremely valuable to our students. We thank Dr. Litton for his generosity.

Finally, I would like to thank each of you for your continued support of the School of Dental Medicine, and specifically, the Endodontics program. Your participation in our Molar Club enables us to provide an exceptional education to our residents. And equally as important, it allows us to give back to the community through programs like Healthy Smiles and Health Legacy. I hope that our students will continue to serve others as they establish their own careers in their respective communities. Take a moment to share with me some of the work you are doing in your own community. We'd love to hear from you.

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Welcome New Fellows and Residents

Incoming Residents



Magdy Beshay

Magdy Beshay completed a one-year fellowship with the department and will start his residency in July. A native of Cairo, Egypt, Magdy is also a musician. He plays piano, writes and arranges music, and plays piano and sings in his church.



Navid Khalighinejad

Navid Khalighinejad also begins his residency in July after completing a one-year fellowship. Originally from Isfahan, Iran, Navid studied general dentistry at Isfahan University of Medical Science. "The one-year fellowship was a great opportunity for me to get used to the new environment as an international student," he says. He also is grateful for the opportunity to become involved in various research projects, which is one of his main interests. "My ultimate goal is to be involved in academia as a faculty member."



Karishma Patil

Karishma Patil, a native of Mumbai, India, completed five years of dental school, including a one-year internship in 2014 at Mahatma Gandhi's Mission Dental College and Hospital in Mumbai, where she earned her BDS. She then worked with her mother, who is an endodontist. Her sister is an alumna of the CWRU School of Dental Medicine Endodontics program and her father is a cardio-thoracic surgeon who trained in the United States and now practices in Mumbai. She chose CWRU based on its comprehensive method of providing patient care and the way that both procedural and conceptual knowledge is taught. "I know that this type of teaching will give me the critical thinking skills necessary to train for the boards," she says. In her spare time, Karishma enjoys music and baking.



Jeannie Wang

Jeannie Wang of New York City received her BS in economics from Binghamton University and her Master's in biomedical science from Rutgers University. She will graduate from the CWRU School of Dental Medicine this year. She is interested in regenerative endodontics and pain control. "The education I received as a CWRU dental student was top notch," she says. "The school's reputation for clinical excellence and a supportive faculty made my decision an easy one. I am excited to further my postgraduate education in endodontics at my alma mater." After graduation, she plans to become board certified and begin a career in both private practice and academia.

One-Year Fellow



Waleed Almutairi

Waleed Almutairi graduated from Qassim University in Saudi Arabia in 2013 and served as a teaching assistant in the Endodontics department there. He also participated in an exchange program with the Herman Ostrow School of Dentistry at USC for two months. He has always wanted to be an endodontist. "To see a patient come into the clinic enduring severe pain and leaving with a big smile gives me a great sense of accomplishment," he says. He looks forward to learning about new technology and revascularization during his fellowship. He is thrilled to be coming to the CWRU School of Dental Medicine based on what he has learned about its modern teaching methods, concentration on research, and its "magnificent educational environment."

AAE 2016 Poster Presentations

by CWRU Endodontic Residents

Martina Gerges

The Impact of the Opposing Dentition on the Survival of Root Canal Treated Teeth

Objective: To verify if different types of opposing dentition might affect the survival of the root canal treated teeth (RCTT).

Hypothesis: We hypothesized that the presence/type of opposing dentition would affect the survival of RCTT.

In the present cross sectional retrospective study, 400 RCTT restored with crowns were included from a computerized analysis of dental school patients who received root canal treatment from 2010-2015. RCTT occluding against FPD was significantly associated with 5.3 times greater chance of extraction compared to RCTT with no opposing dentition. However, there was no significant difference in the survival of RCTT opposing natural dentition compared to those with no opposing dentition.

Based on our findings, which are contrary to previous studies, it might be speculated that a well-designed FPD that simulates the harmonious occlusion of natural dentition can be one of the factors that would increase the survival of RCTT opposing FPD.

Daisy Bachala

The Effect of the Currently Existing Crown, Amalgam or Composite Restoration on the Endodontic Periapical Diagnosis in Teeth Prior to Root Canal Treatment – A Retrospective Study

Aim: To associate various restorations with different periapical diagnoses of teeth that required RCT.

Hypothesis: We hypothesized that teeth restored with crowns would be more associated with symptomatic apical periodontitis (SAP) compared to other restorations.

Results: Cramer's V test showed a moderate association between type of restoration and periapical diagnoses ($\phi_c=0.58, P=0.04$). Teeth restored with PFM crowns were diagnosed with SAP 4.3 times more than those with amalgam and 3.2 times more than those with composite ($P=0.001, EXP[B-Amalgam]=4.3, EXP[B-Composite]=3.2$).

Conclusion: Inappropriately treatment planned crowns in lieu of more conservative restorations could

unnecessarily impact periapical integrity and prognosis of RCT. Therefore, teeth restored with crowns requiring RCT may need adjunctive antimicrobial therapy.

Navid Akbarzadeh

Effects of lipopolysaccharides application on dentin sialophosphoprotein expression of Immortalized Stem cells of human exfoliated deciduous teeth

Investigated the effect of various concentrations of LPS on the expression of Dentin sialophosphoprotein by Immortalized Stem Cells from Human Exfoliated Deciduous Teeth (iSHED). We hypothesized that the application of greater than 100 mg/milliliter LPS would reduce the amount of DSPP expressed by iSHEDs. We found that there was no significant difference between iSHEDs treated with 10 and 100 mg/mL and untreated iSHEDs regarding DSPP production ($p=0.65$). However, 200mg/ml LPS treatment was shown to significantly inhibit DSPP production by iSHEDs ($p=0.035$). Our conclusion was that considering the negligible effect of low concentration LPS on DSPP production, it might be speculated that low grade inflammatory response caused by LPS might not significantly affect the differentiation of iSHEDs into odontoblasts.

Galen Geraets

Correlation of the remaining dentinal thickness between the restoration and the pulp to the resulting pulpal diagnosis

The amount of remaining dentin thickness (RDT) can be a determinant factor in the diagnosis of symptomatic irreversible pulpitis (SIP), asymptomatic irreversible pulpitis (ASIP) and plural necrosis. This study suggests that deep restorations and less than 1mm of RDT can be associated with pulpal necrosis.

Long Ngyuen

The association of various restorative modalities with differential endodontic pulpal diagnosis of teeth prior to endodontic intervention

Pulp testing is an essential part of treatment planning. It is speculated that most teeth are not pulp tested prior to placement of new restorations.

There are limited studies that evaluate the pulpal diagnoses associated with various restorations on teeth that need non-surgical root canal treatment (NSRCT). The purpose of this study was to investigate the different pulpal diagnoses associated with different restorations on teeth that required NSRCT. Dental records of all patients who received NSRCT in the graduate endodontic department were included in this 3-year retrospective study and analyzed using SPSS. Based on the results of this study, amalgam and composite restorations presented more commonly with SIP, while crown restorations were more associated with pulpal necrosis at the time of NSRCT. Perhaps the more invasive the procedure, the more detrimental the condition of the pulp becomes. It would be helpful to recognize this prior to placing a new restoration and diagnose the pulpal status of teeth before, during, and after restoration placement.

Khaled Sahly

A Comparative Study of the Fivefold Decreased Survival of Posterior Teeth Restored with Amalgam or Composite vs. Crown Following Root Canal Treatment

Crowns are generally advocated after posterior root canal treatment (RCT). Different studies report that crown placement after RCT increases tooth longevity. Limited studies have compared survival rate of crowned versus non-crowned root-canal-treated-teeth (RCTT) controlling cofactors (e.g. timing of crown). Our objective was to comparatively analyze the survival rate of RCTT that have been restored using different restorative modalities. Data was collected from existing dental records from 2008-2015. 400 samples were included from an endodontic graduate department database, which identified all posterior teeth receiving RCT.

Data collected included RCT completion date, type of restoration following RCT, and whether teeth were extracted. Teeth were divided into: crown, composite, and amalgam groups based on the type of restoration received after RCT. Results showed that RCTT restored with composite and amalgam had a 4.5 and 6.6 greater chance of being extracted compared to crowned teeth ($P = 0.001$, HR [composite] = 4.5, HR [amalgam] = 6.6). By choosing

more conservative restorations such as amalgam or composite in situations where crowns are indicated, practitioners may be condemning RCTT to be 5 times more likely to be extracted, devaluing the long-term viability of endodontics as a specialty.

Mina Rizk

Dentin Sialophosphoprotein Expression in Stem Cells of Human Exfoliated Deciduous Teeth After Exposure to Human Beta Defensin 2 and 3

Dentin sialophosphoprotein (DSPP) is shown to be involved in the bio-mineralization process of dentin. It has been suggested that the ability of any immune modulator to up-regulate DSPP production by odontoblasts may enable its use in regenerative endodontics. Human beta-defensins ($h\beta D$ s) are a family of antimicrobial peptides, which can stimulate DSPP production in human pulp-derived fibroblastic cells. Studies have shown the differentiation ability of stem cells of human exfoliated deciduous teeth (SHED) into odontoblasts. However, the differentiation capability of SHED under immune modulators has not been fully investigated. This study aims to investigate if $h\beta D$ -2 and -3 treatment would alter the DSPP production of SHED compared to untreated SHED.

Isaac E. Pratt

A 7 year Retrospective Study of the Critical Time Lapse Between Root Canal Completion and Crown Placement: its Influence on the Survival of Endodontically Treated Teeth

The aim of this retrospective study is to investigate if the period of time between RCT and final crown placement affects the long-term survival of the tooth. Is there any consequence of delaying placement of full coverage coronal restoration on the prognosis of endodontically treated teeth? We hypothesized that the shorter the time lapse between RCT and crown placement, the more likely the survival. In this study, statistical analysis showed teeth which received crowns more than 3 months following RCT were 2.17 times more likely to be extracted compared to teeth crowned within 3 months or less.



Dean's Update Kenneth Chance, DDS '79

I'd like to thank each of you for your continued support of our school and your Endodontics department. Your engagement as volunteers, donors and connected alumni enables us to continue our tradition of excellence and service.

We've had a busy and productive year. I'd like to share a few of the highlights—all reasons to celebrate our success:

- We have recently finalized our partnerships with both Qassim University in Saudi Arabia and Future University in Egypt. Signing ceremonies are scheduled here at our university in March with Qassim University and in Egypt with Future University. You'll be hearing much more about these collaborations and the benefits they will bring to all involved.
- As the Health Education Campus construction continues, plans are evolving for the new Dental Clinic, which is the next phase of the HEC campus. We will be working closely with the university and others to make this first-class facility a reality.
- Plans are underway to celebrate the School of Dental Medicine's 125th anniversary, which takes place in October 2017. The Alumni Association Board of Directors is leading the planning and your involvement and input are welcomed. Please contact Sara Fields, Director of Alumni Relations at sara.fields@case.edu to find out how you can become involved.

Dentistry Day

On Saturday, February 27, 20 students from the Cleveland Metropolitan School district spent the day at our school as part of the Charles R. Drew Saturday Academy.



Photo credit: Tony Morrison

They spent the day observing and learning as part of their 12-week immersion in the health sciences. Dr. André Mickel spoke to the students and more than ten current dental students helped make the day memorable and educational for the young visitors.

"These bright and curious students are given a deep and broad view of dental medicine, and what dental education entails," said Dr. André Mickel, chairman, department of Endodontics. "We are thrilled that we can be a part of a program that could potentially be life-changing for these students."

Dr. Mickel expressed his gratitude to the dental students, faculty and staff for their support of Dentistry Day. "By working together to broaden the exposure these students have into our field, we are not only helping them as they plan their future endeavors, but we're helping our profession as a whole," he said.

For more information about the Health Legacy of Cleveland, visit <http://www.healthlegacycleveland.org>.

"We are thrilled that we can be a part of a program that could potentially be life-changing for these students."

Photo credit: Tony Morrison





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JOIN THE MOLAR CLUB!

Each one of us likes to feel a part of something. We join professional and social groups to connect with others. We join clubs or organizations to give back and to receive personal satisfaction. Being a member of something, whether it's a sports team, an alumni group or simply a group of friends who gets together regularly, is an important part of our culture. Here in the Endodontics department, we have a special club that we'd like to invite you to join—the Molar Club.

To join the Molar Club, you simply need to make an annual contribution equal to the cost of a root canal in your own practice. And what you'll receive in return is the exceptional feeling of doing something for others. Your gift will help ensure that our students are able to receive the same outstanding education and experiences that you did. You'll enable us to continue our community outreach and excellence in teaching.

We are pleased to welcome the newest members of the Molar Club:

Dania Kafri, DDS, MSD
Tasneem Ahmad, BDS, MSD
Brandon Webb, DDS, MSD
Michael Mindiola, DDS, MSD

Thank you for joining this important group of alumni who have decided that ensuring the excellence of both the Endodontics program and the School of Dental Medicine is worthy of their support.

You can join the Molar Club by making your gift to the Graduate Endodontic Discretionary Fund. You can do this online at dental.case.edu/giving. For more information, please contact Megan Juby, Director of Development at 216-368-3481 or megan.juby@case.edu.

Save The Date & Join Us

American Association of Endodontics 2016 Annual Session

April 6-9, 2016

San Francisco ■ Moscone Center West

A reception for CWRU Alumni and Friends hosted by Dr. André Mickel will be on Thursday, April 7 at the Marriott Marquis, 780 Mission Street, San Francisco from 6:00pm – 8:00pm

For more information and to RSVP for the reception:
Phone: 216-368-5758 ■ Toll Free: 877-468-1436 ■ dentalalumni@case.edu

For more information about the AAE 2016 Annual Session, visit www.aae.org/AAE16