



Endodontics

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A publication for ADS's Extended Dental Family

Anas Fatayer, DMD



Dr. Anas Fatayer was born in Jerusalem, Israel, moving with his family to the United States and settling in Dallas, Texas. He attended Marquette University for pre-doctoral studies and then entered the University of Pittsburgh, School of Dental Medicine. He was awarded the Frank E. Jeffreys Academic Scholarship among other honors and received his Doctor of Dental Medicine (DMD) degree in 2012.

Dr. Fatayer was accepted into the Pittsburgh Department of Veterans Affairs General Practice Residency program, completing the program in 2013. Dr. Fatayer then entered the Graduate

Endodontic program at the University of Pittsburgh School of Dental Medicine, Department of Endodontics receiving his Endodontic Specialty Certification in 2015. He has been active in dental research having presented "Morphometric Analysis of Sealer Layer using Three Different Obturation Techniques" at the annual American Association of Endodontists (AAE) conference in Seattle, Washington. The AAE recognized Dr. Fatayer for his outstanding efforts and significant contributions to the success of that AAE meeting by granting him a certificate of appreciation. Dr. Fatayer has continuously maintained membership in the American Dental Association, Pennsylvania Dental Association, Dental Society of Western Pennsylvania (DSWP) and the American Association of Endodontists. Dr. Fatayer joined the ADS family in 2015.

The Future of Endodontic Therapy by Anas Fatayer, DMD

The practice of endodontics has been around for a long time, slowly evolving over the years. The dental pulp has been described by Pierre Fauchard in the 17th Century. Since then there have been many evolutionary advances in the field of endodontics. Fauchard described the removal of the dental pulp in 1746. The first endodontic instrument was introduced in 1838 by Edwin Maynard, a file that was fashioned out of a watch spring. Gutta-percha, the material of choice for filling root canals, had been introduced by Edwin Truman in the year 1847. Later on in 1867 the gutta-percha cone was introduced. Today we are still using gutta percha as the primary root canal filling material and hand filing is still a major part of root canal therapy. All of these ideas have been greatly expanded on and improved, however nothing truly revolutionary has been developed until recently.

The main goal of endodontic treatment is the elimination of the root canal system as a source of apical periodontitis. As described above, it was discovered that the removal of the inflamed and/or necrotic dental pulp (and associated bacteria) led to resolution of apical periodontitis. We as clinicians have been greatly successful at achieving this goal without 100% elimination of tissue debris and bacteria from the root canal system. A feat that is not to be understated. We have advanced our methodology and materials to a point that we are able to seal all the inaccessible tissue remnants and bacteria. In some cases however, a seemingly radiographically perfect root canal treated tooth does not heal as expected and requires further intervention. While that may be due to recurrent caries or poor coronal seal, it can also be attributed to the inaccessible remaining bacteria. Recent advances in technology and techniques attempt to clean the root canal system and rid it of 100% of bacteria/tissue remnants. These new technologies will be briefly discussed in this article.

I will start things off with laser assisted irrigation technologies and move on to more recent advances. In my opinion the most prominent of the laser irrigation systems is called the PIPS system. PIPS is short for Photon Induced Photoacoustic Streaming. This system utilizes a low-energy laser light to propagate acoustic waves that aid in more evenly distributing the irrigation solution across the entire root canal system. The American Association of Endodontists (AAE) released a position statement on the use of lasers in endodontic therapy stating that there are benefits to its

use but that there may be some concerns relating to overheating of the internal radicular structure (leading to damage to the PDL). The AAE recommends caution when utilizing new technologies and recommends waiting for long term outcome based studies to be completed.

The PIPS system utilizes an Er:YAG laser set to an energy level of 20mJ at 15Hz. The laser is fired in impulse bursts of 50 microseconds with a peak power of 400W using a tip that remains in the coronal aspect of the access preparation. These impulses create shockwaves (photoacoustic agitation) within the root canal system leading to a three-dimensional streaming of fluids as far as the apical foramen. Proponents of the PIPS system claim limited thermal effects seen in other laser assisted treatment modalities. The PIPS system still requires conservative instrumentation of the root canal system. It, however, does not require the use of specifically developed irrigation fluids. There are some interesting and promising early research results showing improved debridement of organic and inorganic debris from the root canal system. According to Lloyd et al in a study published in the *JOURNAL OF ENDODONTICS*, the PIPS system was 2.6 times more effective at cleaning the root canal system than standard needle irrigation.

Another exciting development in endodontics is the GentleWave system by Sonendo. This system utilizes a disposable hand-piece connected to the GentleWave unit which contains specially modified irrigation fluids in a closed system. This system requires minimal instrumentation, then multi-sonic irrigation slowly cleans the entire root canal system. This system does not require a laser but utilizes proprietary sonic and ultrasonic irrigation frequencies. The system requires a tight seal onto the tooth and the hand-piece tip only needs to be inserted into coronal aspect of the access. The unit automatically runs through a sequence of irrigation and multi-sonic bursts to achieve a claimed 100% clean root canal system. In a recently published article, it was found that the GentleWave system cleaned nearly 98% of the middle and apical thirds of the mesial roots of mandibular molars. This is very significant and could potentially lead to even higher success rates of root canal therapy.

While these advances provide a promising future for the field of

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The Future of Endodontic Therapy Continued

endodontics, more research is needed for these modalities to become the standard of care. Similar to the adoption of microscopes into the daily practice of endodontics, it will take time for a shift to materialize in the specialty at large. It is exciting to think that we are now able to eliminate almost 100% of bacteria and tissue debris from within the root canal system. These disruptive technologies will no doubt improve the outcomes of endodontic therapy and reduce the need for

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retreatments. Currently, gutta percha remains the material of choice for obturation, however research is currently underway to attempt to regrow/regenerate the dental pulp. That in combination with the complete elimination of bacteria from the pulp space will no doubt be the holy grail of endodontics and is the ultimate goal of currently underway research studies.....stay tuned!

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• www.sonendo.com

Office News... Meet ADS - North Hills



Pictured from left to right: Samantha Wagner, Jennifer Hampshire, Kathy Wagner, Dr. Ronald Hand is in the background

Samantha Wagner, Dental Assistant, graduated from Ambridge High School in 2015. Samantha wanted to go into the medical field but was unsure of which professional health care vocation to enter. Franki Chambers, Dental Assistant at ADS, was a friend of Samantha's and recommended that she try the specialty of endodontics as a career possibility.

Samantha shadowed the Associated Dental Specialists doctors for one 8 hour day. Samantha enjoyed what she observed so much and thought this would be a wonderful start to a new career. She decided to apply for a position at Associated Dental Specialists and was employed upon graduation in June of 2015. Franki Chambers provided most of her training, enabling Samantha to become a dental assistant at Associated Dental Specialists.

"I really enjoy working with all of the endodontists because they each have similar but interesting techniques in implementing their skill set. I learn so much by traveling around to all of our six offices and observing approaches when it comes to handling the different dental cases. Our doctors have helped me learn the Associated Dental Specialist system of endodontics. Also, the training was extremely thorough, so, I felt quite comfortable and skilled upon assisting our doctors. Also, I really enjoy working at Associated Dental Specialists because of the family atmosphere and great group camaraderie," said Samantha.

Samantha lives with her parents in Fair Oaks and has a pug who is 2 years old named Silk.

Jennifer Hampshire, Dental Assistant, began working at Associated Dental Specialists in July of 2011. Formerly, Jennifer did a general Pediatrics externship and then worked for an Oral Surgeon. Jennifer graduated from Bradford Business School in 2006. She was looking to expand her experience and career in the field of dentistry, and wanted to broaden her horizons to learn and grow in other areas of the dental profession. A friend of Jennifer's recommended that she apply at Associated Dental Specialists.

"I realized quickly that there were many new and exciting techniques and procedures for me to learn in the field of endodontics. I travel between the Cranberry and North Hills office where I am exposed to a variety of challenges that have expanded my learning curve. I find this to be very exciting as a dental assistant. Also, the staff and doctors at Associated Dental Specialists are like family! Dawn Foltz, lead dental assistant trainer, and Franki Chambers, dental

assistant, were so supportive and open to any help needed while I was being trained in the South Hills Office and Cranberry Office," said Jennifer.

Jennifer is the daughter of Kim and Jim Ehrenberger. Her parents were high school sweethearts and have been married for 30 years! Jennifer is the older of two children. She has a brother Jimmy who is 24 and graduated as a Welder from Triangle Tech. Also, Jennifer has a grandmother, Eleanor, who is 93 years old!

Jennifer met her husband D.J. in Salisbury, Maryland ten years ago while he was in the Marines. D.J. was stationed in Iraq and Afghanistan during his enlistment. He has an associates degree in Criminal Justice and formerly worked as a corrections officer. Presently, he is employed by the United States Government. Jennifer and D.J. were married on April 25, 2014 at the Three Rivers Free Will Baptist Church in Cranberry, PA. Jennifer gave birth to a beautiful baby girl on June 1, 2015. Kaedyn LuAnn Hampshire was 7 lbs. 15 oz. and 20 inches long. She was born at 11:19 pm. D.J. and Jennifer are proud and happy parents!

Kathy Wagner, Officer Coordinator, is a native of Hampton Township. She worked in the North Hills office for 25 years for Dr. Ronald Ferrari prior to Associated Dental Specialists acquiring the practice 5 years ago. The transition was quite easy for Kathy because she was familiar with the office surroundings and liked becoming part of Associated Dental Specialists as a larger practice. Kathy has enjoyed getting to know all of the other staff in the practice and enjoys the camaraderie of working with the people in the North Hills Office.

Kathy is one of eight children; 4 sisters & 3 brothers. Her mother is presently still living in Hampton Township. Kathy's husband, Bret, is a financial consultant. Kathy's first date with her husband was a golf outing. Also, she has a 9 year old cat, Haley. Along with golfing, Kathy enjoys hiking, walking, baking desserts and bowling. She belongs to a bowling league in the summer. Kathy's husband surprised her with a trip to Alaska for her birthday in July!

Ronald E. Hand, DMD is a Pennsylvania native growing up in Sunbury, Pennsylvania. He attended Bloomsburg State College for Pre-Doctoral studies, graduating with a Bachelor of Arts degree. He received his Doctor of Dental Medicine degree from the University of Pennsylvania, School of Dental Medicine and was elected to Omicron Kappa Upsilon, ETA Chapter Honorary Dental Society in 1972. Commissioned a Captain in the United States Air Force and was assigned to Chanute Air Force Base Regional Hospital in Illinois for a Dental Internship. In 1974, Dr. Hand entered the U.S. Army Endodontic Residency Training Program and, in conjunction with the U.S. Army Institute of Dental Research, Walter Reed Army Medical Center and the George Washington University, Washington, D.C., received a Master of Science degree in 1975 and his Endodontic Specialty Certification his second year of residency at Madigan Army Medical Center, Fort Lewis Washington in 1976.

Dr. Hand is a Board Certified Endodontist, certified in 1983 by The American Board of Endodontics as a Diplomate of the American Board of Endodontists. He has served as: Regional Consultant in Endodontics, Chief and Chairman of numerous Departments of Endodontics, as clinical instructor and lecturer for two American Dental Association accredited residency training programs. He has done research, published research, and contributed numerous articles to endodontic literature. In 1995, Dr. Hand retired from the United States Air Force as a Colonel and joined the Pittsburgh endodontic specialty group of Associated Dental Specialists. Dr. Hand has continuously maintained membership in the American Dental Association, Pennsylvania Dental Association, Western Pennsylvania Dental Society, the American Association of Endodontists and the College of Diplomates of the American Board of Endodontics.

Sage Summit 2015, New Orleans, LA, July 28-30, 2015



Our Business Manager, John Hischar, and Office Administrator, Dawn Lewis, attended the 2015 Sage Summit in New Orleans this past July. The Sage Summit is the biggest small and medium business conference in the world. This year's Summit brought together nearly 7,500 business leaders. Notable speakers included former Secretary of State, General Colin Powell, USA (Ret.), Deepak Chopra, Jane Seymour, Trevor Noah, and Tony Hawk; and sessions that spanned the global economy on how to grow your business.

This was John's second Sage Summit and Dawn's fourth. John and Dawn use Sage's accounting software, Sage 50, at ADS. They also utilize a former Sage application, ACT!, to manage ADS's professional relationships with referring doctors. At the 2015 Sage Summit they had the opportunity to participate in three full days of sessions from over 300 offered, all focused on growing one's business. Everything from general business best practices, to industry panels, accounting, finance, and enterprise resource planning utilizing the Sage family of products.

The Summit was such a stimulating environment for creative thought, discussion, and training that both John and Dawn have already registered for the 2016 Sage Summit in Chicago.

Past and Upcoming Seminars



Timothy Donley, DDS, MSD presented an ADS continuing education program jointly with the Pittsburgh Academy of Dentistry on **September 10, 2015** at the University Club on the University of Pittsburgh Campus entitled **Nutrition & Host Modulation For Better Perio Outcomes: An approach that can change lives** for 6 CE credits. Timothy Donley DDS, MSD is currently in the private practice of Periodontics

and Implantology in Bowling Green, KY. After graduating from the University of Notre Dame, Georgetown University School of Dentistry and completing a general practice residency, he practiced general dentistry.

Dr. Donley explained to the attendees that there are a significant number of patients walking into dental offices every day with legitimate periodontal treatment needs. The success of the periodontal portion of a dental practice is going to depend on the doctor, dental hygienists and staff to motivate patients in need of care by implementing a therapeutic approach. This seminar provided the tools necessary to maximize the chance for patients to achieve a preferred level of oral health. The attendees left Dr. Donley's seminar with the knowledge and skill set necessary to benefit the patients for any dental practice.

Bethany Valachi, PT, MS, CEAS presented an ADS continuing education program on **Thursday, November 19, 2015** at the Pittsburgh International Airport Embassy Suites entitled **PRACTICE DENTISTRY PAIN-FREE: Evidence-Based Strategies for a Long & Healthy Career** for 3 CE credits. Bethany Valachi, PT, MS, CEAS is the author of the book, "Practice



Dentistry Pain-Free: Evidence-based Strategies to Prevent Pain and Extend your Career" and clinical instructor of ergonomics at OHSU School of Dentistry in Portland, OR. A physical therapist who has worked exclusively with dental professionals for over 15 years, she is recognized internationally as an expert in dental ergonomics, and has been invited to lecture at over 300 conferences worldwide, including the *Asia Pacific World Dental Conference* in Dubai.

Bethany explained to dentists, specialists, hygienists and assistants how to bridge the gap between dental ergonomics and work-related pain so you can work more comfortably and productively. Delivered with high energy and humor, attendees discovered how equipment selection and adjustment, patient positioning, lighting, movement and operatory layout are affecting their health. Engaging demonstrations helped attendees learn how to implement powerful evidence-based strategies to prevent work-related pain and improve quality of life.

Our next scheduled program, a 3 credit continuing education seminar on Thursday, February 18, 2016 entitled RADIOLOGY UPDATE – 2016, Satisfy your DEP Radiology Licensure Requirements PLUS Learn what's new in 2D & 3D Cone Beam (See what you've been missing!!), will be presented at Patterson Dental Supply, Inc., Conference Room, Cranberry Township, PA from 5:30 pm – 8:30 pm. Registration will be at 5:00 pm and a light dinner will be served prior to the presentation. The featured speaker will be Sandra Lee Boody, RDH, M. Voc Ed. The purpose of this seminar is to discuss the basic concepts and indications of three-dimensional digital imaging, the terminology used, the equipment, the fundamentals, the advantages and disadvantages of this technology.

Also, a 6 credit continuing education seminar on Friday, April 22, 2016 entitled Treating the "At Risk" Population with Evolving Approaches for the Entire Dental Team, will be presented at the Pittsburgh International Airport Embassy Suites Hotel, Pittsburgh, PA from 9:00 am – 4:00 pm. Registration will begin at 8:00 am. A continental breakfast and lunch will be served. Our featured speaker is Stephen Hsu, PhD, Professor of Oral Biology and Oral Health & Diagnostic Sciences at the Dental College of Georgia at Augusta University. Dr. Hsu is also an award-winning international researcher and CEO of Camellix. **Join us for an exciting and interactive session with this entertaining, and award winning Georgia Regents University Professor, Dr. Stephen Hsu.** This course will enhance your dental team's understanding of the **hot topics in today's health dental health arena.** The purpose of this seminar is to demonstrate how to significantly improve oral health and quality of life for patients using newly developed products, and to understand antivirals and their effect on cellular activity and safer treatment options. Also, the attendee will learn how to evaluate previous and emerging treatment approaches for managing Xerostomia and much more!

If you have any questions or would like to register for this program please email Dawn at dlewis@ads-endo.com



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Future Seminars for 2016

- Thursday, February 18, 2016 - **Radiology Update – 2016: Satisfy your DEP Radiology Licensure Requirements PLUS Learn what's new in 2D & 3D Cone Beam (See what you've been missing!!)**, Sandra Lee Boody, RDH, M. Voc Ed., Patterson Dental Supply, Inc. Conference Room, Cranberry Township, PA
5:30 pm – 8:30 pm. **(3 CE Credits)**
Fee: \$99 for each attendee
- Friday, April, 22, 2016 - **Treating the “At Risk” Population with Evolving Approaches for the Entire Dental Team**, Stephen Hsu, PhD, (Professor of Oral Biology and Oral Health & Diagnostic Sciences at the Dental College of Georgia at Augusta University. Dr. Hsu is also an award-winning international researcher and CEO of Camellix), Pittsburgh International Airport Embassy Suites Hotel, Pittsburgh, PA
9:00 am – 4:00 pm **(6 CE Credits)**
Fee: \$99 for each attendee
- Thursday, September 22, 2016 - **CaMBRA: The Science Behind Preventing Tooth Decay**, Lisa Stillman RDH, BS, Doubletree Hotel Pittsburgh/ Monroeville Convention Center, Monroeville, PA
5:30 pm – 8:30 pm **(3 CE Credits)**
Fee: \$99 for each attendee
- Thursday, November 17, 2016 - **Simplant: Computer Guided Implant Treatment**, Jennifer M. Zavoral DMD, MPH & Certificate in Periodontology, Patterson Dental Supply, Inc. Conference Room, Cranberry Township, PA
5:30 pm – 8:30 pm. **(3 CE Credits)**
Fee: \$99 for each attendee

For more information or to register for our Seminar Series, please register online at ads-ce.com or contact Dawn at 412-722-1939 or email dlewis@ads-endo.com