

# roots

the international magazine of endodontics

**1** 2022

## **\_best practices**

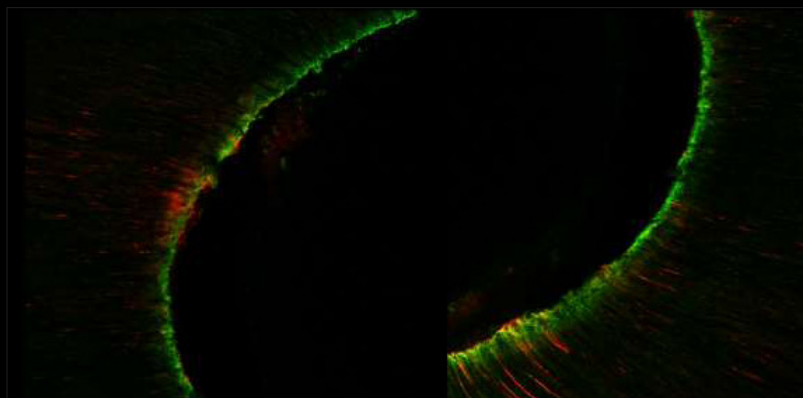
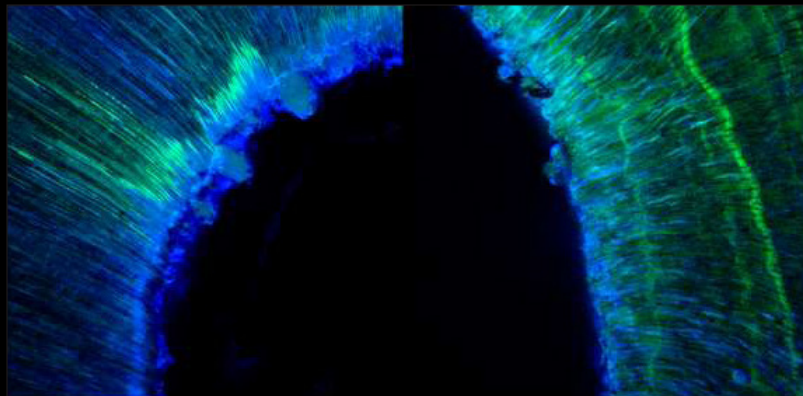
Little secrets to success: Make yourself the patient

## **\_technology**

Using intracanal bioceramic medication to achieve disinfection

## **\_survey**

Americans are eating fewer sweets, resolving to prioritize oral health



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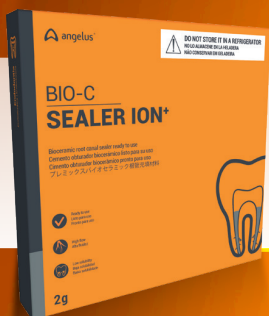
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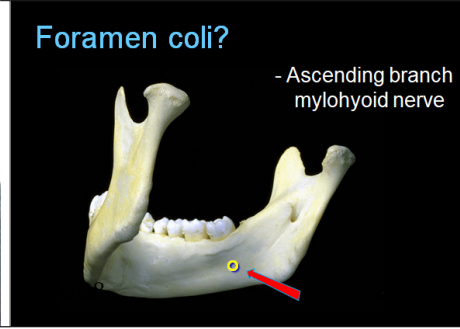
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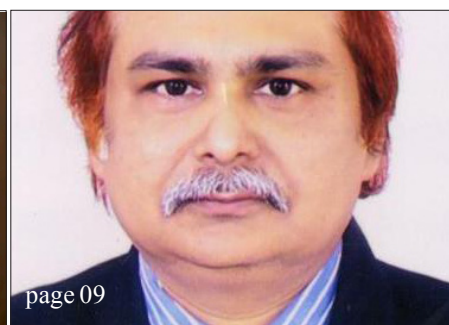
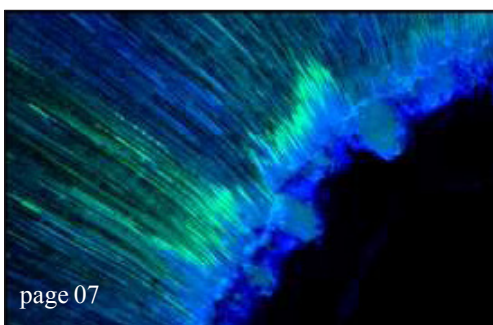
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*Images in confocal laser scanning microscopy with fluorescence after the use of intracanal medication based on bioceramic compounds (BIO-C TEMP) and obturation with bioceramic sealer. (Photos/Provided by Angelus)*



# Little secrets to success: Make yourself the patient

Author\_John J. Stropko, DDS, Editor in Chief

More than six decades ago, my incredible journey toward the pursuit of excellence in the dental profession began. Over the years I lived in five different locations and successfully started two restorative and three endodontic practices. Looking back now, I realize that success was achieved by constantly spending much time, money and effort on practice management, continuing education seminars and upgrading the office and staff. But there were some "little things" we normally did without any extra effort and that possibly made a huge difference in the patient's perspective of treatment received.

During my travels, I was fortunate to study under some of the great practitioners in the world. I spent time in their practices, and we often become close friends. One of my first mentors was L.D. Pankey. Dr. Pankey made presentations before numerous local, state, national and international dental groups, and he was best known for his seminars on "A Philosophy of the Practice of Dentistry." One of Dr. Pankey's most memorable quotes was, "Strive to be the best, because there are so few up there. But strive to be the best for the right reason, and that is to serve patients to the best of your ability." The Pankey Institute was founded and opened doors to its first class in Miami in 1972 to teach a philosophy of dentistry that focused on saving teeth for a lifetime, as well as creating a patient-centered level of care. After several continuums at the Pankey Institute, what I learned about treating patients served as my guide for the

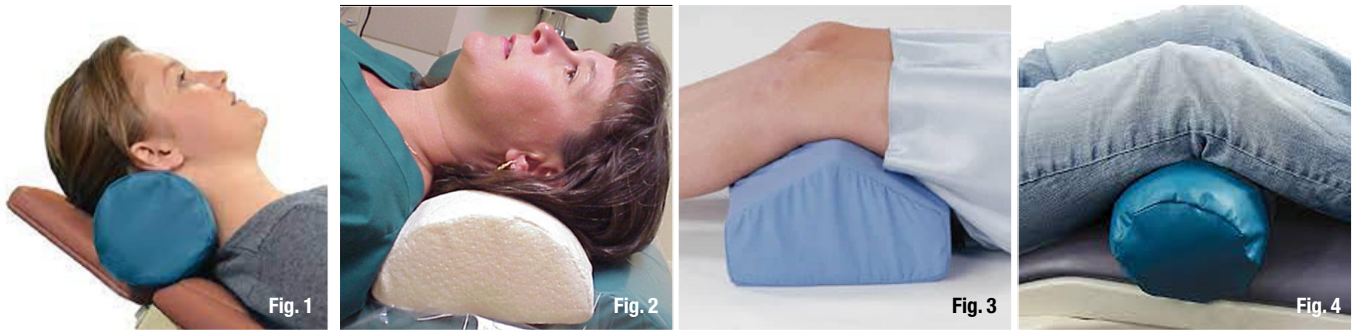
remaining years of my career, both as a restorative practitioner and an endodontist.

Every patient was greeted by the staff and treated as though they were the only patient in the entire practice. The reception room décor was fresh and was furnished with the patient's comfort in mind. On occasion, when no one else was around, I would go sit in the reception room and pretend to be a patient. I wanted to be sure no upgrades needed to be made, that there was no dust in the corners, and the area was kept as clean by my janitorial service as if it were my own home. The patient was given a tour of the office and made as comfortable as possible while necessary records were completed in preparation for the doctor to spend adequate time with them on their first visit.

One of the most important tasks for the entire office staff (doctor included) is to schedule enough time for the procedure to be completed and maintain a stress-free environment. Especially when practicing at the highest level possible, the doctor has to be realistic on what amount of time is normally necessary to accomplish the specific procedure. Of course, not every procedure goes as expected and complications do happen, but the office team should have allowances made to accommodate this when it does so no one is stressed as a result.

The consultation visit was scheduled so there would be adequate time to educate the patient and answer any questions about their treatment, including possible post-op experience, the expected

One of the most important tasks for the entire office staff (doctor included) is to schedule enough time for the procedure to be completed and maintain a stress-free environment.



**Figs. 1-4** To increase comfort, pillows are useful beneath a patient's neck, small of their back or under the knees. (Photos/Provided by Dr. John J. Stropko)

prognosis, and the fee. I felt comfortable presenting the fee, and the staff would then discuss financial arrangements, insurance coverage, etc. The patient was then scheduled for treatment.

On the day of treatment, the patient was seated in the treatment room and made as comfortable as possible. One of the things we did to assure their comfort was to use different types of small Tempur pillows beneath the patient's neck, small of their back or under the knees (Figs. 1-4). Personally, I have never been comfortable in any dental chair without a neck pillow. One of the things that always got a very positive comment was the placement of a pillow beneath the knees of the patient, especially the elderly patients. Tempur pillows of all varieties are available online and should not be too firm or too soft. When a time-consuming surgical procedure was done that required the patient to keep their head turned in one direction, we would have the patient turn onto their side and prop them with pillows so they would remain comfortable for the entire procedure. By the way, this was an incredible "practice-builder"!

One of patients' biggest concerns was the injection of anesthetics. While doing the injections the chairside assistant would usually place a hand on the patient's shoulder as a sympathetic gesture to comfort the patient during the procedure and assure them that someone was there if needed.

There were a few ways we tried to eliminate the causes of the discomfort.

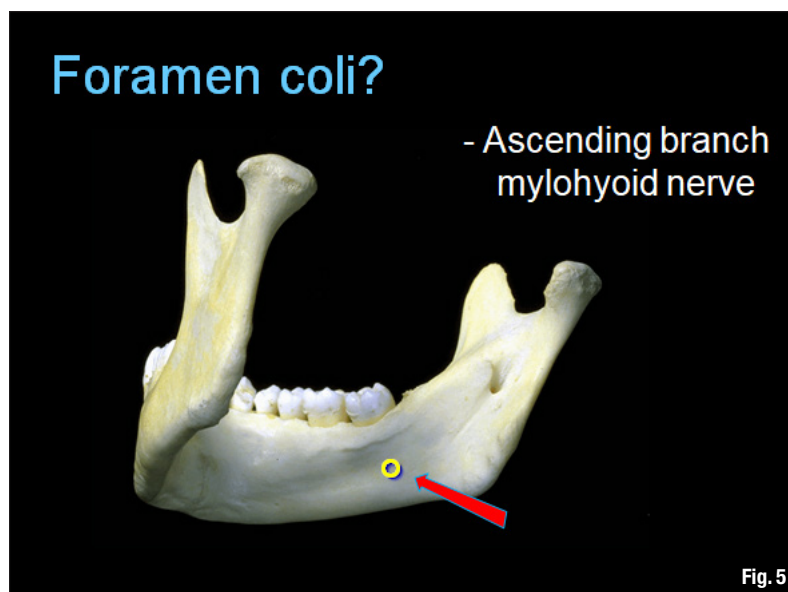
First, to eliminate the "thermal shock" experienced whenever injecting a cold solution, both the anesthetic carpule and the syringe were prewarmed on a standard heating pad with a sterile cover and set at a low temperature. Some doctors use carpule warmers, but when the warm carpule is placed

into a cold syringe, the anesthetic becomes quickly cooled and the patient feels the unpleasant "thermal shock." So, it is important to warm both the syringe and the carpule.

Second, the actual piercing of the needle can be greatly reduced in all maxillary injections by using pressure anesthesia at the injection site. The lip is retracted with the thumb and forefinger and pressure placed at the point of injection. The syringe is placed so the bevel of the needle is toward the bone, and the lip is quickly pulled down over the needle and anesthetic slowly injected. In the case of the incisal and greater palatine injections, the pressure can be placed using a blunt or rounded end of an instrument like the handle of a mirror.

Third was pre-injection of the injection site when using some anesthetics that have a chemical "burn" when used. For example, bupivacaine vs. lidocaine: the bupivacaine anesthetic solution is more readily felt than lidocaine, so a small amount of lidocaine is normally used prior to the injection of bupivacaine.

All mandibular treatment cases were anesthetized using the standard IAN injection plus an additional injection at the foramen coli to anesthetize the ascending branch of the mylohyoid nerve. It has been shown the ascending branch of the mylohyoid nerve may be a source of innervation to the mandibular



**Fig. 5** An additional injection at the foramen coli anesthetizes the ascending branch of the mylohyoid nerve.

# To eliminate the ‘thermal shock’ experienced whenever injecting a cold solution, both the anesthetic carpule and the syringe can be prewarmed on a standard heating pad set at a low temperature.

teeth.<sup>1</sup> The foramen coli is located lingual to the apex of the mandibular second molar (Fig. 5). Not all patients have this innervation present, but this may sometimes account for the pain during an operation following an apparently successful mandibular injection. As a result, a “missed” mandibular nerve block was very rarely experienced.

When interviewing dental patients over the years regarding uncomfortable feelings they have about their dental treatment, some are invariably going to mention dental fees. Maintaining a practice committed to delivering the highest level of excellence to patients requires many things: the latest technology, up-to-date instruments and equipment, an adequate facility in a good location, and many hours of training for both the office team and the doctor. With every new technology, a new and very significant commitment of time and money is involved. Unless the fees are sufficient it is not possible to continue delivering the highest and most predictable quality of care to the patient.

The only way a doctor can control their practice is by the fees charged for services. In general, if a practice is too busy and the doctor can't spend the necessary time to perform procedures to the desired level, the fees are too low. When the fees are increased, some patients will not perceive the value and will leave the practice, allowing more time to be spent with patients who value the doctor's time. The fee must be fair for both the doctor and the patient. The value received by the patient must be justified as well as the reward for the doctor. Keeping all in balance is an ongoing challenge that must be met for the good of both the doctor, the staff and the patient.

To summarize, in order for success in the patient-centered practice, the following concepts need be adhered to:

1. Treat the lips as if they were priceless, antique draperies.
2. Make the time to be gentle – don't hurry!
3. Inject very slowly with warmed, buffered anesthesia.
4. A hand on the shoulder always feels comforting.
5. Speak with understanding and confidence.
6. Remember a patient is at the end of your instruments.
7. Disposables are not “lifetime” possessions.

8. Create a positive and relaxed team environment.

9. No interruptions or distractions during the visit.

10. Call the patient that night!

Follow these steps to enhance your patients' experience. \_

## Reference

1. Mendel Nevin, DDS, and P.G. Puterbaugh, MD, DDS, text, “Conduction Infiltration and General Anesthesia in Dentistry,” revised 5th edition 1956. p.45.

## about the author

roots

John J. Stropko received his DDS from Indiana University in 1964. After serving in the United States Air Force as a captain in the Dental Corps, he practiced general and restorative dentistry until 1987, then decided to further his education and pursue specialty training in endodontics. In 1989, he received a Certificate for Endodontics from Dr. Herbert Schilder at Boston University, and he returned to private practice, as an endodontist, for the next 23 years. Dr. Stropko enjoys lecturing and is an internationally recognized authority on conventional and surgical micro-endodontics. He has been a visiting clinical instructor at PERF; an adjunct assistant professor at Boston University; an assistant professor of graduate clinical endodontics at Loma Linda University; and was on the endodontic faculty at the Scottsdale Center of Dentistry, responsible for the micro-surgical curriculum. His clinical research on “in-vivo root canal morphology” has been published in the Journal of Endodontics, and he wrote the micro-surgery chapter in both of Arnaldo Castellucci's textbooks, “Endodontics.” Dr. Stropko is the inventor of the Stropko Irrigator and was the co-founder of Clinical Endodontic Seminars. Over the past two decades, he has given numerous presentations and live conventional and surgical micro-endodontic demonstrations worldwide. In 2012, Dr. Stropko decided to retire from private practice and spend more time writing, lecturing and traveling. His favorite pastime is keeping up with the ever-changing evolution of technology in endodontics and sharing his 50 years of dental practice experience. He is currently the program director for the Horizon Dental Institute in Scottsdale, Ariz., and editor-in-chief of *roots* magazine. He and his wife, Barbara, currently reside in Prescott, Ariz.



# The use of intracanal bioceramic medication to achieve disinfection

Author\_Angelus Staff

Microorganisms and their endotoxins are the main factors responsible for the pathogenesis of pulp and periapical infections. Consequently, one of the main objectives of endodontic treatment is to eliminate microorganisms and their endotoxins in the most extensive and effective way possible.

The use of mechanical preparation, followed by disinfection with chemical agents, is the method used to succeed in the elimination of microorganisms. However, when the infection is in the acute phase and the treatment cannot be performed in a single session, a medication dressing is used between visits, and BIO-C<sup>®</sup> TEMP is the evolution for this goal.

BIO-C TEMP is an intracanal bioceramic medication, available in a premixed syringe and with an applicator tip specially developed to deliver the product directly into the canal.

Among its main features, such as gradual release of Ca<sup>2+</sup>, biocompatibility and high alkalinity, ease of removal stands out in the study below.

## Adhesive interface formed between root dentin and filling material

The use of BIO-C TEMP combined with a bioceramic sealer provided greater penetration of the sealer into the dentin tubules in a regular and homogeneous way, forming much longer tags and, therefore, a more hermetic and three-dimensional filling. However, with the use of traditional medication and an epoxy resin-based sealer, it is not possible to observe the formation of such long tags.

**Fig. 1** Images in confocal laser scanning microscopy with fluorescence after the use of intracanal medication based on bioceramic compounds (BIO-C TEMP) and obturation with bioceramic sealer. In fluorescent green it is possible to observe the presence of intracanal medication remnant inside the dentinal tubules. In fluorescent blue, the penetration of filling sealer into the dentinal tubules is observed, with the formation of longer and more uniform tags. (Photos/Provided by Angelus)

**Fig. 2** Images in fluorescence laser scanning confocal microscopy with fluorescence after using calcium hydroxide-based intracanal medication (Ultracal XS) and sealing with epoxy resin-based sealer (AH Plus). In fluorescent green, it is possible to observe the presence of intracanal medication remnants homogeneously along the entire circumference of the canal, as well as the absence of penetration of the root canal sealer. In fluorescent red, there is little formation of tags, deformed and without continuity. Furthermore, it is possible to affirm that there is no formation of a layer resulting from the interaction of intracanal medication and root canal sealer.

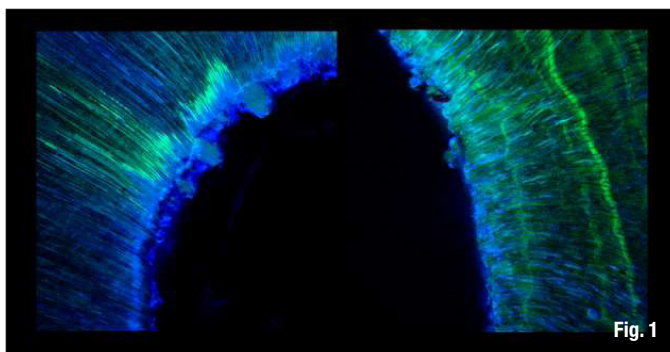


Fig. 1

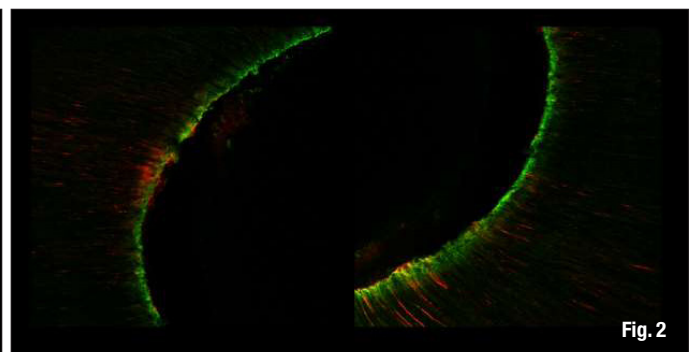


Fig. 2

# Americans are eating fewer sweets, resolving to prioritize oral health

Author\_American Association of Endodontists Staff

It's no surprise that cases of cracked teeth and dental-related injuries have risen throughout the pandemic – and it may be due in part to pandemic-related stress wreaking havoc on oral health.

According to a November 2021 survey fielded by the American Association of Endodontists, 81 percent of American adults wish they had taken better care of their natural teeth. More than half (55 percent) wish their parents had instilled better oral hygiene habits when they were younger, and 43 percent admit tooth pain or oral health issues negatively affects their productivity or ability to focus.

In other findings, more than a quarter (26 percent) of Americans feel others would find them more attractive and about one in six (16 percent) feel they would have a more active dating life if they took better care of their teeth.

However, there is hope: 76 percent intend to prioritize their oral health in 2022. And they're not just thinking of themselves, as nearly seven in 10 (69

**AAE's online directory can help patients connect with an endodontist in their area.**

percent) would consider giving a toothbrush (electric or manual) to someone for a gift.

Other findings of the survey included the following:

- 66 percent plan to brush or floss their teeth more often.
- 56 percent plan to drink fewer sugary drinks, cut back on candy and sweets or reduce coffee or tea consumption.
- 36 percent want to improve the appearance of their teeth.
- 19 percent will resolve to quit or reduce teeth grinding.

AAE President Dr. Alan S. Law said: "Major tooth pain can strike at any time or place, and it's critically important that patients seek treatment from a skilled dental specialist right away when this happens. AAE's recently improved online directory can help patients more easily connect with an endodontist in their area when they need relief from tooth pain, want to save their natural teeth via root canal treatment or need to receive immediate care for other dental-related emergencies."

The AAE commissioned Atomik Research (a division of 4media group) to conduct an online survey of 1,004 American adults. The margin of error for the overall sample fell within plus or minus 3 percentage points with a confidence interval of 95 percent.

Fifty-six percent of Americans plan to drink fewer sugary drinks, cut back on candy/sweets or reduce coffee or tea consumption. (Photo/dreamstime.com)





# The late **Dr. Anil Chandra** is honored with foundation's first named educator grant

**Author\_**American Association of Endodontists Staff

The Foundation for Endodontics honored an American Association of Endodontists (AAE) member, the late Dr. Anil Chandra, on the occasion of his birthday on Jan. 27 by announcing a Full Time Educator Development Grant (FTEDG) award to be given annually in his name. The Chandra FTEDG memorial award is first of its kind being named for an educator.

An international member of the AAE in Uttar Pradesh, India, Chandra succumbed to COVID-19 in April 2021, during the throes of the pandemic outbreak there. He was dean of dentistry and a senior professor of the Department of Conservative Dentistry and Endodontics in the Faculty of Dental Sciences at King George Medical University in Lucknow at the time of his death.

The recipient of the Dr. Anil Chandra Memorial FTEDG was announced during AAE22 in Phoenix. One Chandra FTEDG award will now be given annually.

Chandra's career as a dental educator and endodontist includes a global network of clinicians he mentored during dental school and graduate training; numerous publications and awards; and appointments at North American universities including UCLA, SUNY and Rutgers.

He held four patents, edited three Indian dental journals, and served extensively in volunteer leadership roles in addition to giving presentations at dental conferences around the world. A fellow of the American Academy of Dentistry, Chandra was a passionate advocate for advancing access to specialty training and standards of endodontic education.

He is remembered by his students as a soft-spoken, kind-hearted teacher, ever willing to help them master another dental technique. He was always there to listen and guide selflessly and remains an inspiration to advance their professional and personal lives. Despite a perpetually busy schedule, Chandra

continued to make a priority of staying connected with hundreds of his students all over the globe.

The foundation's FTEDG, one of its most widely utilized grants, advances professional development of endodontic educators by affording qualified faculty access to leading conferences around the world to share knowledge and interact with pre-eminent leaders in the field.

"It's difficult to recruit faculty – to be a full-time educator, you have to have a passion," said Dr. Craig Hirschberg, department chair of endodontics at Rutgers and a foundation trustee. "Retaining them is difficult. The FTEDG awards are an important source of financial support available to all full-time educators to access high-quality continuing education, network with colleagues, and support residents doing presentations and table clinics. Not everyone has access to discretionary funds so that faculty don't have to reach into their own pockets or beg for money from their deans. Of course, there's a significant difference in earnings compared with clinicians in private practice. Even schools with discretionary funds had their funds frozen because institutions were losing so much money during COVID."

Thanks to the generosity of Chandra's proteges, family and friends whose donations came in from all over the world, the Dr. Chandra FTEDG was fully funded in a matter of only weeks after launching the appeal.

Chandra is survived by his wife, Sangeeta, a daughter, Ahana, and a son, Ananya.



Dr. Anil Chandra was a passionate advocate for advancing access to specialty training and standards of endodontic education. (Photo/ Provided by the American Association of Endodontists)