March, 2021

FLORIDA FOCUS

The publication exclusively for the general practitioner

Dentistry's Critical Role in COVID-19 Testing

Practical Cybersecurity Tips

Dr. Carolyn Primus and Bioactive Bioceramics

Dentist Availability in the Southeastern United States

The Smile Behind The Mask

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Patricia "Tri" Jenkins

A Message from your FLAGD President

Hello All,
I am inspired by Henry Ford's famous quote, "Always be surrounded by people smarter than you." As a FIRST President of Florida AGD, elected virtually, I am happy to announce our new vibrant team ready to take on over and move forward Dr. Andrew's legacy.
I have learnt in my spiritual lessons that when you stay as guests in someone's house, always leave the house in a better condition than when you go in. And I promise to do the same to Florida AGD.

We are all aware of the severe blow dealt by Covid, not only to the world economy, but to each individual existence in terms of earning money, meeting people socially, doing business etc. and of course the psychological trauma. Once again, I was blessed to learn from a highly spiritual guru, Sister Shivani, of Brahmakumaris movement, which was "Obstacles are not in our way, Obstacles are the Way of Life." We just have to learn to cross the obstacles with perseverance, rather than grumble and complain about it.

So let us look at the positive side: Covid-19 taught us what life is about, simplicity and spirituality, PLUS uncertainty. Covid taught us to be closer to our near and dear ones, taught us how good a home- cooked food can be, gave us a chance to be healthier, gave us a chance to know thy neighbor, helped people in almost every corner of the world by improving their hygiene measures, etc. It is disheartening that Humanity sacrificed over 2 Million of our people. But that did not go in vain because it transformed
the rest of 7.8 Billion of us – by imparting on us the Characteristic of Humility. Covid is the only event in the history of mankind and United States that we, most of the citizens, got our hard earned tax dollars back from the government.

So, I want my team to learn from Covid to see the Positive aspects of everything and handle all obstacles as they come our way. I promise life will be more fun because I will use another famous quote "life isn'tabout waiting for the storm to pass. It is about learning to dance in the rain". And I pray to God to please give us the strength to handle the difficulties in these current times, with a
smile, till this storm withers away. We all know, there is not a single storm in the history of mankind that has not come to an end. And this will too. And hopefully God, you will help us make it go away sooner.
Now let us talk about the future. Looking into the future, I am also inspired by Abraham Lincoln, who said: "The best way to predict the future is to create it." And I have a Grand Plan to help FLAGD and all of its members. Please stay tuned! I cannot end this letter without a special thanks to my beautiful wife, Archana, who encouraged me to Volunteer and do something good for the profession, knowing very well the sacrifices she will have to make in the coming years. I am looking forward to one of the Best Years ahead for Florida AGD in 2021. And pretty soon, I hope to meet with you all in person.

Humbly,
Naresh A Kalra, BDS, DDS

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EDITORIAL

Welcome to a new year of your FLAGD journal, the *Florida Focus*, and congratulations to our new President, Dr. Naresh Kalra, and to all the board members! Special congratulations to Secretary Dr. Toni-Anne Gordon and Executive Director Patricia Jenkins on the birth of their baby boys!

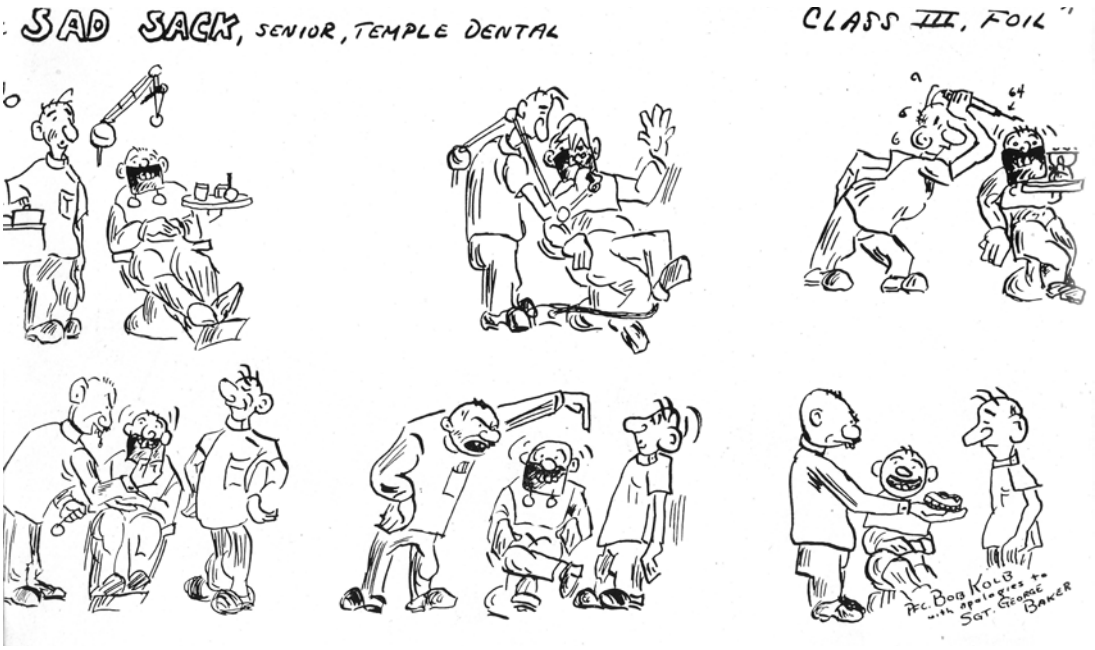
I hope you will all read Dr. Kalra's poignant and insightful message to our members. I was especially moved by his quote, "Obstacles are not in our way, obstacles are the Way of Life." After the global devastation of 2020, I hope we can now embrace the obstacles, focus on the knowledge we gained during this time, and feel deep gratitude to the virologists and immunologists who developed the COVID vaccines so quickly.

As your editor, I have two new goals for the *Florida Focus*, which we've implemented in this issue. In addition to continuing to provide worthwhile content to our members, each issue will now offer two free CEUs for members who successfully complete the two exercises. At present, members will need to mail or email their answers, but we hope to enable you to submit the answers on our website soon. My second goal is to include one or two articles by dental students in each issue. As a senior, I was fortunate to have an article published in the *Virginia Dental Journal*, and I'm delighted to offer the same opportunity to the current students of Florida's three dental schools. I'm sure you'll be impressed by the professionalism of the article they submitted!

Millie K. Tannen, DDS, MAGD
Editor

In addition, we'd like to print more articles by our members. Is there a particular area of dentistry you enjoy or an experience or professional recommendation you'd like to share? Please let us know!

In a way, becoming your editor is a continuation of a family tradition, since my father, prosthodontist Herbert R. Kolb, was the managing editor of the *Temple (University) Dental Review* and *The Templar* yearbook and also drew cartoons and caricatures of his classmates.
After the U.S. entered World War II, all the dental students were trained to serve in the armed forces. Below is my dad's 1945 dental parody of "Sad Sack," a popular comic of the time. Humanity and our civilization survived that terrible period, and we're surviving this challenge, too. Let's look forward to 2021 as a year of progress and renewal for our profession and the FLAGD.



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Front Cover Photo: From left to right, Dr. Naresh Kalra, Dr. Wendy Churchill, Dr. Leonard Britten, Dr. Randy Weisel, Dr. Zack Kalarickal. Seated, Ms. Amber Mariano.

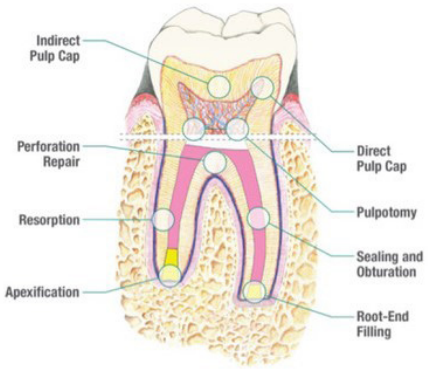
Dr. Carolyn Primus and the Evolution of Bioactive Bioceramics

Q&A with Florida Focus Editor Millie K. Tannen, DDS, MAGD

When engineer Dr. Carolyn Primus left nuclear weapons development to work in dental materials, who would have predicted that her research would help change the practice of dentistry? Since 1997, Dr. Primus has been influential in the field of bioactive bioceramics, popularly known as mineral trioxide aggregate or "MTA," bioactive materials which stimulate healing of the pulp and periodontal tissues. Today, the efficacy of these hydraulic tri/dicalcium silicate cements is well-established in general dentistry, endodontics, pediatric dentistry, and oral surgery, with thousands of studies demonstrating their successful use in direct and indirect pulp-capping, pulpotomies, perforation repair, apexification, bone grafting, and as endodontic sealers,[1] often with results superior to calcium hydroxide.[2,3,4,5] Yet, according to a *Dentaltown* poll, nearly 30% of general dentists are "unsure or unfamiliar with these materials."[6]

Dr. Primus likes to compare the action of these bioceramics to "Harry Potter's cloak of invisibility." When tri/dicalcium silicate cements interact with water or body fluids, the hydrated matrix releases calcium and hydroxide ions. Interaction with phosphate ions in the blood and other tissue fluids forms a layer of hydroxyapatite. As Dr. Primus writes, "The bioactivity… effectively cloaks the foreign body (the cement) from the tissues within hours and allow the four phases of wound healing to begin."[7] The bioactive cements act on dental stem cells to stimulate healing through an increase in osteoblasts, cementoblasts, fibroblasts, pulp cells, and odontoblasts.[8]

In her career, Dr. Primus has been awarded patents for 13 dental materials.[9] Her first tri/dicalcium silicate cement product was White ProRoot MTA, invented in 2002. In 2010, she established her own company, Avalon Biomed Inc., to manufacture bioceramic cements which were more affordable, had improved handling, and could be used in a greater variety of clinical applications. In 2014, Dr. Primus developed NeoMTA Plus, which has been rated #1 by *The Dental Advisor* for the past 6 years.[9,10]



After selling Avalon Biomed to NuSmile in 2016, Dr. Primus developed three new bioceramic products: NeoSealer Flo, NeoPutty, and NeoMTA². She emphasizes that "all the innovations are for convenience of the dentist; the same good biological properties are present in many products of this nature."

Today, she resides in Sarasota, Florida, and is retired from active research, although she continues her work as the chair of both the ADA's and the International Organization for Standardization's committees on endodontic materials. This past January, Dr. Primus graciously consented to an interview for the *Florida Focus*. In addition, she shared and consented to our publication of written comments which will appear in the *American Ceramic Society Journal's* special issue on bioceramics in September 2021.

Q. How were bioactive bioceramics initially developed?

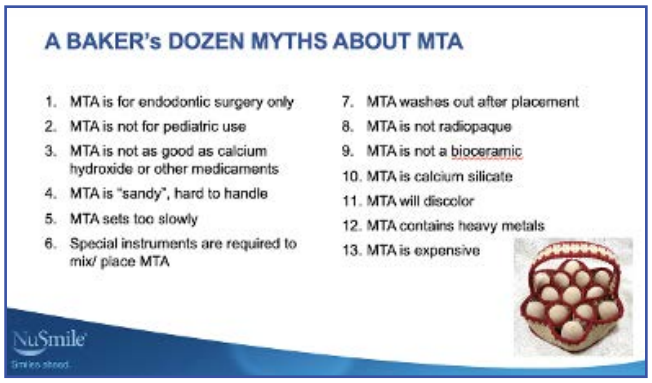
"The first modern report of using Portland cement in teeth came from Germany, shortly after the invention of Portland (tri/dicalcium silicate) cement. Dr. Witte used it to fill a tooth, but the description is scanty. The 20th Century adaptation of tri/dicalcium silicate dental cement material was based on a construction grade commercial gray Portland cement, blended with bismuth oxide powder.7 This material was dubbed Mineral Trioxide Aggregate (MTA) by the inventor, Dr. Mahmoud Torabinejad. He invented MTA in collaboration with a patient who was a cement expert. The dark gray powder was commercialized in 1997. Later, white calcium silicate dental cements were invented and commercialized, to avoid the dark cement showing through tissue surrounding the root or in the coronal part of the tooth."

Q. Can you please discuss the effect of incorporating resin into bioactive bioceramics?

"Resins detract from bioactivity; the resins encapsulate the cement particles (dispersed in the resin matrix). Some resin-based pulp capping or pulpotomy products have been commercialized that include hydraulic calcium silicate cements in their compositions. Such products are very popular in dentistry because they are light-cured using intense blue light, chemically set by the combination of two pastes, or cured using both mechanisms. However, cell culture [11,12] and clinical results for a light-curable calcium silicate cement have not been as favorable as the resin-free calcium silicate cement products when it was used for direct pulp contact. There were no differences when resin-based or non-resin-based calcium silicate cements were used for indirect pulp capping."[2, 13]

Q. Bioactive bioceramics have been very successful when used in direct and indirect pulp capping and in pulpotomies. Does the age of the patient affect the success rate?

"Use of bioactive cements for vital pulp therapy is particularly beneficial for primary teeth, to avoid formocresol. Bioactive cements for vital pulp therapy, including pulpotomies in permanent teeth, may delay or avoid root canal treatment. This is a significant benefit to public health, being less costly and less invasive. Pulpotomy studies have reported highly successful outcomes using these products. Several studies compared two calcium silicate products (ProRoot® MTA and Biodentine®); others compared the calcium silicate cements to the former standard of care (formocresol)." [14, 15, 16]



How does the presence of infection affect these sealers?

"An infected perforation (acid conditions) can interfere with the setting of the tri/dicalcium silicate cements. Sometimes a recall is required to remove a medicament (calcium hydroxide) - before placing the tri/dicalcium silicate cements. However, calcium aluminate cements are more acid resistant and may become popular for that reason; these hydraulic cements are similar to the calcium silicate cements."

Q. What questions or comments do you hear most often from endodontists and restorative dentists?

"You asked the right questions! BUT false information remains that MTA-type cements are sandy, hard to handle, discolor teeth, set slowly and are unaffordable. None of this is true for the newer products. Another peeve of mine is that resin-modified glass ionomers are bioactive; releasing fluoride and calcium ions is "biointeraction," but does not lead to the deposit of hydroxyapatite on the surface."

Q. These bioactive cements have demonstrated such successful clinical results, yet there is still concern about their cost. Could you please comment on their cost effectiveness today?

"The cost per dose of NeoMTA was $4.68 for 0.1 gm, a reasonable weight to mix for a pulpotomy or perforation.[17] With the NeoPUTTY product, the cost can be even less because no mixing is required."

Q. What do you see as the future of bioactive bioceramics?

"Many innovative products have been marketed for dentistry over the past 23 years that build on the inherent bioactivity benefit of the humble hydraulic ceramic cements. New products are easier to use, many are faster setting, some are more radiopaque and new products do not discolor teeth. Beyond today, bioactivity will remain an important feature of new dental materials. New combinations of the hydraulic cement may have advantages for new treatments, such as cervical resorption. Some new products are more affordable. Cost effectiveness remains an issue in dentistry world-wide for using these products, despite the recognized success of the hydraulic calcium silicate cements.

"Presently, the hydraulic cement products are most popular with pediatric dentists and endodontists. With their continuing success, general dentists will hopefully embrace the hydraulic ceramic cements for their 'everyday' dental procedures, to offer the highest level of care.

"The adoption of the calcium silicate cements into orthopedics will require an orthopedic product champion. New product designs, including delivery devices may be needed for use in vertebral augmentation procedures. For instance, superabsorbent polymers may be useful for creating tissue scaffolds for bone cement or bone grafts such as in the jaws, or elsewhere."

Q. Is there anything else you'd like to say to our general dentists?

"Bioactivity is the new standard of care!"

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Florida Focus -Self-Instruction Exercise 03212, Dental Materials Subject 010 -- 1 CE Credit

The 10 questions for this exercise are based on information presented in the article, "Dr. Carolyn Primus and the Evolution of Bioactive Bioceramics," by Editor Millie Tannen.

Reading the article and successfully completing this exercise will enable you to:
- understand thecomposition and action of these cements;
- understand their uses in clinical practice;
- feel comfortable incorporating them into clinical practice.

Please email your answers with your name and AGD number to flagdeditor@gmail.com or mail them to 9155 Audubon Park Ln. Jacksonville, FL 32257.

In future Florida Focus issues, we plan to enable our members to submit answers online. 80% of the answers must be correct to receive credit. Answers for this exercise must be received by February 28, 2022.

1. The efficacy of hydraulic tri/dicalcium silicate cements is well-established in general dentistry, endodontics, pediatric dentistry, and oral surgery. However, according to a Dentaltown poll, nearly 20% of general dentists are "unsure or unfamiliar with these materials."

a. Both statements are true.
b. The first statement is true; the second is false.
c. The first statement is false; the second is true.
d. Both statements are false.

2. When tri/dicalcium silicate cements interact with water or body fluids, the hydrated matrix releases _____ and _____ ions.

a. calcium, phosphate
b. silicon, phosphate
c. calcium, hydroxide
d. silicon, hydroxide

3. Clinical applications of tri/dicalcium silicate cements include all the following except:

a. subgingival Class V lesions
b. indirect pulp capping
c. pulpotomies in permanent teeth
d. apexification

4. Interaction of the cements with phosphate ions in the blood and other tissue fluids forms a layer of _____.

a. calcium hydroxide
b phosphorus trioxide
c. hydroxyapatite
d. calcium hydride

5. The original Mineral Trioxide Aggregate contained all the following ingredients except one. Which is the exception?

a. bismuth oxide
b. construction grade cement
c. gray Portland cement
d. medical grade cement

6. Clinical results for a light-curable calcium silicate cement have not been as favorable as the resin-free calcium silicate cement products when it was used for direct pulp contact. There were no differences when resin-based or non-resin-based calcium silicate cements were used for indirect pulp capping.

a. Both statements are true.
b. The first statement is true; the second is false.
c. The first statement is false; the second is true
d. Both statements are false.

7. _____ environments can interfere with the set of hydraulic tri/dicalcium silicate cements.

a. Neutral pH
b. Acidic
c. Basic
d. Moist

8. Compared to early MTA materials, modern MTA-type cements have all the following properties except:

a. faster set times
b. less discoloration
c. greater radiolucency
d. more variable set times

9. Resin-modified glass ionomers exhibit "biointeraction" by releasing hydrogen and calcium ions. This leads to the deposit of calcium hydride.

a. Both statements are true.
b. The first statement is true; the second is false.
c. The first statement is false; the second is true.
d. Both statements are false.

10. All of the following except one are myths about hydraulic tri/dicalcium silicate cements (MTA). Which is the exception?

a. MTA sets too quickly.
b. MTA is only for endodontic use.
c. MTA contains heavy metals.
d. MTA is not for pediatric use.

Dentist Availability in the Southeastern United States

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It is an easy concept to understand: if more people are being educated to become dentists in a state, then there should be an increased number of practicing dentists within their borders. Our review of the existing literature indicates that many factors affect access to dental care within a population. One contributing factor appears to be the geographic area in which they reside.[4]

When looking at Health Resources and Services Administration (HRSA) data maps, it is clear that dental health professional shortage areas exist; this indicates an inequity to accessing dental care based on geographic area.[8] Our goal was to find a relationship between the number of dental schools available in a state and the number of dentists working in that state. For research purposes, we compared seven southeastern states to four that opened dental schools in the twenty-first century. The states are as follows: Alabama, Arkansas, Tennessee, North Carolina, South Carolina, Georgia, Mississippi, Louisiana, Florida, Maine, and Arizona. We decided to use the southeast as our comparison group because this region has significantly high numbers of shortage areas when compared to other parts of the country.[3] We predicted that if more dental schools were available, or as more dental schools open in a certain state, there would be an increase in the number of working dentists in that state and increased access to dental care.

A dental health professional shortage area (dHPSA) is a geographic area, population, or facility with a shortage of dental health providers and services. Designated dental health professional shortage areas are regions that contain underserved populations who lack access to adequate oral health care.[6] States in the southeast are regions with significant shortage.[3] As hypothesized, we believe that the main contribution to this phenomenon could be due to a limited number of dental schools in these states.

This ends up creating areas that are in desperate need of dental professionals. North Carolina, Florida, Maine, and Arizona are four states that opened new dental schools since 2000. Of these states, only

North Carolina did not show a significant change in the percentage of dentists practicing in the state after opening a new dental school.[7] We used data collected in the American Dental Association's Supply of Dentists in the U.S. 2001-2019 and especially looked closely at the states' data for the four year academic window after a school was opened (i.e. the time it would take for the inaugural class to graduate) as displayed in Figure 1.

The state of Arizona opened two new dental schools since the year 2000; A.T. Still University, Arizona School of Dentistry and Oral Health (ATSU-ASDOH) in 2003 and Midwestern University College of Dental Medicine – Arizona (MUCODM-A) in 2008. Due to the availability of data, we are unable to provide an average on the dentist profile in the state for the four years prior to 2003.

However, in 2002, the state of Arizona saw a 2.98% increase in the number of dentists practicing in their state. In 2003 (the year ATSU was opened) the state saw an increase of 7.36% in their practicing dentist population, and from 2003-2007 there was an average 5.39% increase every year. From 2008-2012, the state only saw an average 2.36% yearly increase.[7] (Figure 1) The opening of ATSU's dental school preceded that of Midwestern's, which could be one possible explanation as to why the average yearly increase was higher in 2003-2007 than in 2008-2012.

The state of Maine opened the New England College of Dental Medicine in 2013.[9] In 2013, they saw an increase of 4.83% in the number of practicing dentists. The four years prior to opening their doors (2008-2012), Maine only saw an average increase of 0.43%. From 2013-2017, the state of Maine saw an average increase of 1.17% in their practicing dentist population. In 2017, the year of the inaugural class's graduation, the state saw another strong increase of 4.01% in their practicing dentist population.[7] (Figure 1)

In Florida, Lake Erie College of Osteopathic Medicine School of Dental Medicine (LECOM-SDM) accepted its inaugural dental student class in 2012.[5] The previous four years saw an average increase of 1.33% in the number of practicing dentists in the state of Florida. In 2012, an increase of 1.81% was observed and from 2012-2016, the state had an average increase of 2.47% per year of practicing dentists.[7] (Figure 1)

Nearby states such as Alabama, Mississippi, and Louisiana had much lower numbers during the same 2012-2016 window. Alabama had an average decrease in the total number of practicing dentists in the state of -1.52% year-to-year; Mississippi only saw an average increase of 0.43%, and Louisiana saw an average increase of 0.50%. Small yearly fluctuations in the number of practicing dentists were a common trend that we observed when looking at many U.S states. [7]

North Carolina opened the doors to East Carolina University School of Dental Medicine (ECU-SDM) in 2011. From 2006-2010, North Carolina saw an average 2.58% increase in the number of practicing dentists every year. After the opening of the school, from 2011-2015, North Carolina still only saw an average 2.58% increase; as stated earlier, North Carolina did not follow the same trend that we observed in other states. However, the year that the inaugural class graduated, 2015, the state saw a sharper increase of 5.39%; this was the highest increase recorded in the 19-year data set.[7](Figure 1)

ECU-SDM, MUCODM-A, and LECOM-SDM were not the first schools opened in their respective states. This possibly explains why the opening of the first and only school in Maine caused a larger increase in the percentage of practicing dentists over the years.

It should also be noted that during the same 2011-2015 timeframe, neighboring states Georgia and South Carolina only saw an average of 0.14% and 0.19% increase, respectively. Also, the state of Tennessee actually saw a 0.44% decrease in the number of practicing dentists per population.[7]

The state of Arkansas has not yet opened a dental school, and we used this state as our "control group". We analyzed the yearly data for Arkansas during the same date ranges used for the states that opened a new dental college in the 21st century. Comparing Arkansas to Arizona, from 2003-2007, the state of Arkansas saw an average decrease of -0.05%; from 2008-2012, the state of Arkansas saw an average 0.77% increase. During 2011-2015 (the date range analyzed for North Carolina), the state of Arkansas saw an average increase of 0.65% in the number of dentists in their state. Compared to Florida, during 2012-2016, the state of Arkansas saw an average increase of 0.44%. Finally, during the years of 2013-2017 after Maine opened their dental college, the state of Arkansas saw an average increase of 0.56%.[7]

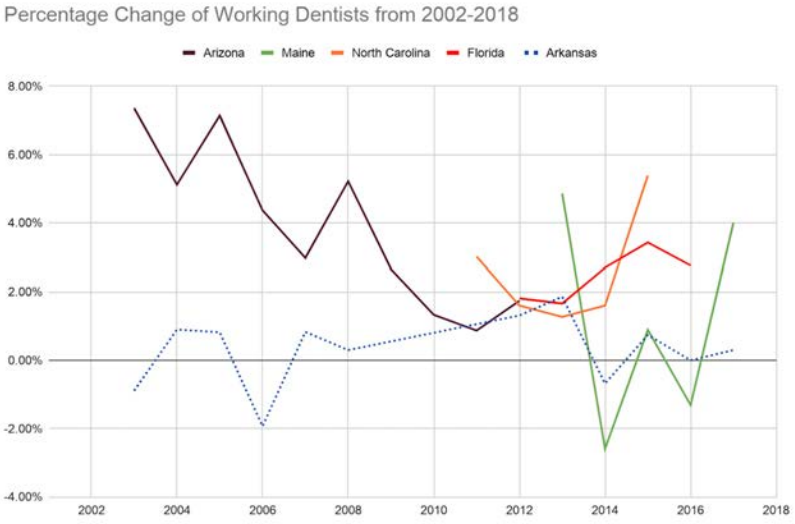

Figure 1. Illustrates the percent change of working dentists after dental school openings in the states of Arizona, Maine, North Carolina, Florida and Arkansas. The state of Arkansas, which has not yet opened a dental school, was used as the control group.

There are several possible reasons why opening a new dental school would increase the number of practicing dentists in that state. When a new dental college is opened, dental professors are recruited and brought in to teach at the school. Dental faculty are also recruited to work and teach in the dental clinics. This creates an opportunity to bring experienced out-of-state dentists into the state.

Furthermore, advertising for the new school creates additional opportunities to market towards out-of-state dentists. Stories and articles about the new school will be aired and run in local, regional, and state news channels and newspapers. This publicity about the school could potentially lay the groundwork for graduating dentists to practice in the same state they graduated from, following their dental school education and bolster that state's dental professional workforce.

Despite opening new schools and the increased number of dentists, there are still many provider shortage areas in Arizona, North Carolina, Florida, and Maine.[8] It is important to bring in additional dentists; however, if these dentists are only moving to well-provided urban areas, then these dHPSAs are going to continue to exist in rural and underserved areas.[1] When viewing HRSA data maps in the southeast, there are still many dHPSAs across these states, while counties containing larger cities (Atlanta, Miami, Charlotte, Jacksonville, etc.) tend to rank better in their dHPSA scores.[8] It has also been shown that rural patients across all demographics visit the dentist at disadvantaged rates compared to their urban counterparts.[1] Looking at one study from Georgia, researchers found that almost half of the counties did not have adequate dental professional supply to meet the demands of the pediatric population. However, the state of Georgia, on average, had twice as much professional supply than the state called for.[2] This illustrates that state averages can potentially be misleading. If an increased supply of dental professionals does not reduce the quantity of these low provider areas, then the access to care issue is not being adequately met.

Several states in the US saw a small increase in the number of practicing dentists per population regardless of the number of new or existing dental schools in those states.[7] However, small gradual increases simply are not enough to satisfy the needs of states with many severe dHPSAs. Policies need to be put into place to both recruit and also retain dentists in states with large rural areas, especially to target the younger dentist generation. These policies could range from better job incentives, loan repayment plans, or simply opening new dental schools in underserved areas and attempting to recruit students that have ties to that state. However, once more dentists have been trained, they would also need to practice and provide service in one of the many underserved regions. It is clear from looking at dHPSA regions in each state, that there is still a significant need that has yet to be met in terms of providing dental care to populations that are in great need. Opening more schools would help to reduce provider shortages, however, it will also require a comprehensive strategy in order to incentivize providers to serve in these areas.

Authors' Notes

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A special thanks must also be given to Dr. Christina Godoy and Dr. Sibel Antonson for their guidance and encouragement. We also wish to thank Nova Southeastern University for giving us the opportunity, materials, and experience to become better dental professionals in these unprecedented times.

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Practical Cybersecurity Tips for Dentists in 2021

Clay Archer, CEO, DPC Technology

Let me start of by saying there is no silver bullet that will protect you 100% against cyber-attacks. But I will say that if you do nothing, you will be a target. All businesses are having to assess their policies, procedures, and providers to help assure they are proactively protecting their assets. Healthcare (dentistry specifically) was a major target in 2020 and I would assume that trend will continue. This is intended to be a practical 4 step guide that you can use along with your IT provider to enhance the security of your system. This is non-technical, and you can do this now. Adopt policies & procedures to train your staff. It may sound silly but if you do not spell out what your team members can and cannot do, how can you expect them to know?

Polices will need to address topics such as acceptable internet use, acceptable device and machine uses, physical security and location of devices and machines and contingency planning. Every policy should have accompanying procedures that detail what must occur.

Main areas that need to be addressed with staff:

- Importance of protecting critical information and why it needs to be protected (Specific laws, HIPAA compliance, etc.)
- How you will be protecting it? (Specific Hardware in office, Password Policies, etc.)
- Who is the point person enforcing safety? (Dentist, Office Manager, IT Managed Service Provider, etc)

If you would like a free acceptable use policy template, you can download one below.

https://www.dpctechnology.com/get-a-free-internet-acceptable-use-policy-template-for-your-business/

Please have your legal team review and update your policy as needed.

Have Preventative Measures (Layered Security):

This list is intended to be used in a discussion with your IT provider. It is not intended to drive the decision on what tools are used to achieve the goal. A good relationship with your IT provider should look like a good relationship with a patient. The patient does not choose the brand and type of implant, they trust the professional to use the tool that will lead to the desired outcome. Auditing this list on an annual basis (at least) is a great way to keep everyone on the same page.

Preventative measures are the most important element in a cyber security strategy and should include:

- Implementing network security protocols (Wifi Passwords, etc.)
- Browser Filters (in office rules – NO PERSONAL SITES ON WORK COMPUTERS)
- Implement User Accounts (So you know who is on what machine)
- Data Encryption (Encrypted email accounts, hard drives, etc.)
- Two Factor Authentication (Office 365, Social Media Accounts, etc.)
- Off-site backup/Disaster Recovery - Endpoint Security
- Enterprise Firewall
- Password Management

Develop an Incident Response Plan
An incident response plan should spell out who does what if something happens.
It is much more effective to tell one individual to dial 911 than is to yell "someone dial 911".

By defining roles, you will minimize the confusion during a difficult time. Knowing who to call and what to do will streamline the process.

The 5 elements of a good incident response plan are:

- A list of roles and responsibilities for the incident response team members. (Both Practice and IT Provider)
- A business continuity plan. (how are we recovering from backup, etc)
- A summary of the tools, technologies, and physical resources that must be in place.
- A list of critical network and data recovery processes.
- Communications, both internal and external. (Insurance, Vendor and Team Member contacts)
- Your insurance company may take over some of these roles in the case of a breach. You should still review these roles with your IT provider and document your plan. We recommend reviewing your cyber insurance policies as part of this process.

Review security with your IT Provider

You should be meeting with your IT provider on a regular basis to review these items and plan for upcoming changes. We do QBRs (Quarterly Business Reviews) with this rough schedule. During our Q1, and Q3 reviews, we sit down and review the health of the system, budget for any upcoming changes and identify any deficiencies in training, hardware or policies. In Q2 we do a staff training "lunch and learn" on cybersecurity, email and computer usage. In Q4 we do the annual HIPAA risk assessment for your technology.

This quarterly cadence keeps everyone on the same page and greatly reduces risk in the practice. If you are not currently up to date on all these items, meet with your IT provider and discuss how you can get on the same page.

While cyber security may seem overwhelming, having a healthy system is not unattainable. With a little bit of effort and following the outline above, you should be well on your way to a safer 2021!

About the Author:
Clay Archer is the Founder and Chief Executive Officer at DPC Technology. For more than twenty years, he has been leading his team in providing computer support, outsourced IT and network implementation solutions to businesses throughout the southeast. His experience in the field and extensive knowledge is unmatched when it comes to helping companies find the right fit from an IT perspective.

Master of Business Administration - University of North Florida – College of Business University of Florida – Bachelor of Science, Economics

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The Smile Behind The Mask

For many years now, we on the clinical side of dentistry have consistently worn masks only during procedures. With COVID-19, everyone in the office is now wearing a mask… all day long. Many (or most) are using N95 masks or double masking. Without the ability to use our 'total face' to express what we are saying, everyone faces an additional hurdle in communicating with our patients.

The Smile Behind the Mask can be seen if we are, indeed, actually smiling behind the mask. Our emotions and smile can actually reach our eyes. Our patients can hear/'see' the smile or caring concern in our voices.

Many years ago, Linda Miles (my dental consultant of 30 years and now a dear friend) would constantly say 'smile when you speak on the phone and the patient will feel the smile that they cannot see.' My business team began to smile during their phone calls, and the difference in communication was extremely well received by patients. Also, the entire clinical team began to smile behind their masks with a similar reaction by patients. With the doctor and team's smiles, patients could feel the care and sincere concern more than ever before. Many of you have heard of the four personality styles. Linda taught us over 30 years ago that our personality style is what it is. It is not wrong nor right. It just is. But what we CAN do is to shift our own method of communication to match the style of the patient.

I have practiced this personality shift when necessary for many years with great results, as have my team members and offices where I have consulted. For example, a patient is a real talker and is outwardly expressive of their emotions. If your style is more detailed/ statistically oriented, using few words, you can become the Smile Behind the Mask and role shift to a person who talks more, shows more emotion, and relates much better to your patient's style.

With that role shift, your message is more readily received and your treatment plan more fully accepted.

The final and most important message is, as you Smile Behind the Mask, focus on the 'felt need' of the patient. For example, what does the patient see as their most important need? The best way to ensure that you understand this felt need is to ask the patient after listening to them. "I understand that X is your most important need or the reason that you came in today." "Is that right?"

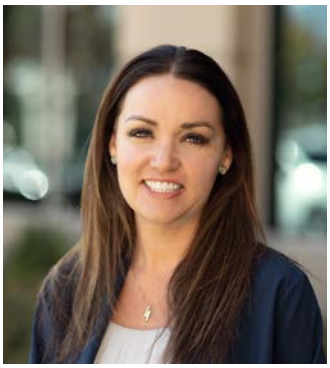
Those two simple sentences let the patient know that you are listening to them and you want to make sure that you heard them correctly.

For example, if their primary felt need is a chip on a front tooth, address that need first, if at all possible. When you make sure that you discover and address that felt need and smile as you accomplish this task, that patient will feel that you are not just smiling behind your mask but LISTENING behind your mask as well. In the future, other needs will be accepted much more readily, just as long as you address their felt need first.

In this era of COVID and masks, we can accomplish effective communication and have our patients feel/see our caring concern. "Patients don't care how much you know until they know how much you care" (Linda Miles). So, practice the rules of The Smile Behind the Mask to show how much you care. In doing so you will more fully enjoy each and every day plus achieve success far beyond what you have ever imagined.

DR. JONATHAN A. BREGMAN
CONSULTANT
SPEAKER
& AUTHOR

Dentistry's Critical Role in COVID-19 Testing



By Crystal May, Devdent

Once again, dentistry has an opportunity to play a critical role in the COVID-19 pandemic. Initially, we were asked to close our offices to non-urgent services but remain open for emergency care. We did this knowing the increased risk of exposure to ourselves and our teams. The emergency rooms literally could not have handled any more than was already being thrown at them. Had dentists not been willing to manage emergency patients, the overload would have been detrimental. By closing our offices, we also played a critical role in reducing exposure and the spread of the virus.

CLIA Certificate of Waiver Process

1. **Check State Agency for any other state-specific requirements**
   CLIA is a minimum requirement. State or local laws may be more stringent.
2. **Complete CMS-116 Form**
   Can be found on CMS website or from your local State Agency.
3. **Send completed application to local State Agency**
   https://www.cms.gov/Regulations-and-Guidance/Legislation/CLIA/Downloads/CLIASA.pdf
4. **Pay fees** www.cms.gov/clia
   Waiver Certificate is $180 fee - valid for 2 years

Vaccines remain the mainstream solution for COVID-19. However, there are still so many unknowns surrounding duration of immunity and how effective it will be against the new strains of COVID. The latest strain, B117, also referred to as the UK strain, contains a mutation that makes it approximately 50% more contagious, as estimated by various preliminary studies (Karlis, 2021). Confirmed cases of this mutated virus are appearing in multiple states in the US (Soucheray, 2021). This higher transmission rate makes the fear of a "round two" worldwide shut down a real possibility. Unfortunately, we are only a month in, and vaccine administration is already behind schedule. It was the goal of the CDC to have 20 million doses administered by the end of December (Higgins-Dunn & Feuer, 2020). Yet, it is estimated that only 9.3 million doses have been administered as of mid-January (CNBC, 2021). Phase one allocations intended for healthcare personnel and long-term care facility residents are also being met with resistance.

It's the patient's right to refuse the vaccine, and in Ohio, as many as 60% of LTC employees have declined the vaccine (Waller, 2020). The CDC initially estimated that it would be mid to late 2021 before a majority of Americans would be vaccinated (Lovelace Jr. & Feuer, 2020). Dentists will likely be called upon to help administer the vaccine. Some states have already approved dentists as administrators, and more will likely follow (OSHA).

COVID-19 and Dentistry:
COVID-19, the subsequent dental shutdown, and the country's overall economic impact have severely affected the dental industry. We are arguably one of the most impacted industries in the country. I recently interviewed several customers to see how COVID-19 directly impacted their practices. The first noticeable impact was financial. The loss of revenue during the shutdown cost them hundreds of thousands of dollars. Simultaneously, increased price of general supplies, additional PPE, and added COVID screening and safety requirements all affected the bottom line by adding time, effort, and expense to the practice. One doctor reported they lost 25% of their staff due to the pandemic. Some staff members were lost because they had to choose to stay home with their children to manage home school, or due to lack of daycare, and others because the unemployment bonus and stimulus money allowed them to change professional directions. Regardless of the reasons, the result was the same. Dentists nationwide lost critical and often long time employees, who now have to be replaced and retrained; this is expensive. Other consistent concerns are the last-minute cancelations, patients' reluctance to come in due to fear of exposure, and a decrease in case acceptance because of financial limitations.

What can we do:
Knowing the shortcomings and the prolonged time frame of mass vaccination reinforces the position that fast, accurate, and accessible testing is one of the most effective ways to control the spread of COVID-19. Fortunately, current COVID-19 tests are accurate in detecting the new strains of COVID, at least to this point. However, the tests cannot distinguish or differentiate the variations in the strain

(Science Media Centre, 2020). We will likely need to proceed as if all positive cases are that of the mutated strain and are more highly contagious. Dentistry is in a unique position to help by offering testing solutions. Not only are we seeing the general population, but we have the means to safely and efficiently administer the tests. As a bonus, dentists are also set up to bill medical insurance for this procedure, making this affordable for patients. I believe we have an opportunity, and even an obligation, to help manage the pandemic while protecting our industry.

Why Should Dentists offer COVID-19 testing:

According to George Citroner from Healthline, about 20% of COVID-19 carriers are entirely asymptomatic (Citroner, 2020). Many patients have mild symptoms and aren't equating it to COVID-19. That means every day you and your team may come into contact with patients that are unknowingly spreading the virus.

Broad-scale testing of both asymptomatic and symptomatic patients is an essential step in reducing the spread of COVID-19. The new, more contagious strain makes this even more critical. Of course, this is assuming that patients follow quarantine protocols laid out by the CDC and the local health departments. COVID-19 testing can also alleviate many of the adverse effects on dentistry, as identified above, that the pandemic has caused. By providing testing before the patient begins treatment, we reduce the risk of spread within the practice. We can build trust and reinforce that the dental practice is a safe place to be, both for patients and team members. The number of patients who are canceling due to fear of previous exposure will significantly decrease. Patients may even seek out appointments to get these rapid results for their peace of mind. All of this will help keep your schedule full and ultimately increase revenue. And let's not forget the income generated from the COVID-19 tests themselves. Whether or not you offer medical billing or choose to charge a cash fee, patients are willing to p ay for testing.

Can Dentists offer COVID-19 testing:

The FDA quickly realized that COVID testing would be essential to control the spread of the virus. To make testing available to the general public as soon as possible, the FDA initiated the EUA for specific COVID-19 tests (FDA, 2021). This emergency use authorization (EUA) is a temporary authorization from the FDA to use tests that have not met full FDA requirements. Bypassing the traditional FDA process was essential, as the standard FDA process could take months or even years. Specific COVID-19 tests are so simple to administer that they have been classified as Waived in the laboratory testing categories (CDC, 2020). Essentially this means that the person or provider that administers these particular tests does not need to have special training. Each clinic that offers this type of Waived testing needs to apply for a CLIA Certificate of Waiver. This EUA and Waived testing status is a fundamental reason that dental practices can administer specific COVID-19 tests.

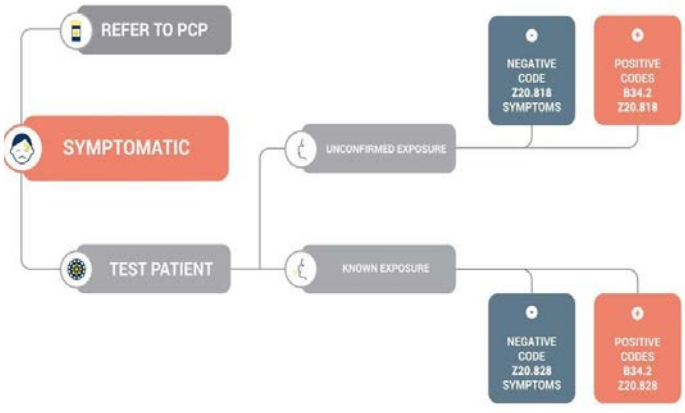
What Paperwork is Required:

The dental practice must apply for a CLIA ID number and a Certificate of Waiver to administer a CLIA Waived test. CLIA, The Clinical Laboratory Improvement Amendments of 1988, regulates laboratory standards in the US, including the laboratories that administer testing and the tests themselves. The Centers for Medicare & Medicaid Services (CMS) regulates the CLIA program, but each state manages protocols and state regulations themselves. Therefore you must check with both your state and local agencies for specific rules in your area. Florida has no particular state requirements in addition to the need for the CLIA Certificate of Waiver.

You will apply for your CLIA Certificate of Waiver by completing the CMS-116 form, referred to as the CLIA Application. The CLIA application consists of a total of 10 sections and a signature line. To aid in the completion of this form, I have created a video with step-by-step instructions. See CLIA Application Step-By-Step Guide at https://www.devdent.com/covid-19/. Once complete, the CMS-116 form will be submitted to your state agency. Your state will process the application, and once it's approved, you will receive your Certificate of Waiver and CLIA ID number. Processing times vary significantly by state and can take anywhere from 48 hours to 90 days to be approved. Florida is estimating 14 days to process these applications.

After your application is approved and your CLIA ID number is issued, you will need to pay the $180 fee. Fee's will be paid to CMS through this link, pay.gov/public/form/start/55598674.

The Certificate of Waiver is valid for two years. It is essential to understand that this Certificate of Waiver only authorizes you to administer Waived laboratory tests. Please check with the test manufacturer for confirmation of Waived status.



Which Test to Use:

There are several types of COVID-19 tests available. You will need to decide If you want to administer antigen tests, antibody tests, or both. It is my personal opinion that antigen tests are the most relevant to dentistry. If you plan to test each patient before treatment, then the speed of results will be essential as you choose your test. You will also need to verify that the COVID test you select has a EUA; remember that's the FDA's temporary approval, and that it has a CLIA Waived status. We have vetted a rapid COVID-19 test that is easy to administer, is highly sensitive, and will produce results in as little as 10 minutes. You can learn more about testing options by visiting https://www.devdent.com/covid-19/.

What's your next step:

As you take the next steps to offer COVID-19 testing in your practice, there are four essential steps.

1-Check your state agency and boards for specific guidelines
2-Apply for your CLIA Certificate of Waiver
3-Order your testing supplies
4-Set your protocols

As described above, offering COVID-19 testing is a service to your community, your patients, and your practice. The only reason I can see that a dentist wouldn't want to offer COVID-19 testing is a lack of knowledge. Devdent has created an educational series specifically designed to help you get started and be successful in COVID-19 testing. Whether you are unclear on the guidelines, the reporting requirements, or the medical billing options, Devdent is here to help. As we drive down our path to Develop Dentistry, we will continue to bring you the latest information on topics we believe are essential to dental practices and patients.

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Florida Focus -Self-Instruction Exercise 03211, Practice Management Subject 550-- 1 CE Credit

The 10 questions for this exercise are based on information presented in the article, "Dentistry's Critical Role in COVID-19 Testing," by Crystal May.

Reading the article and successfully completing this exercise will enable you to:

- understand why dentists should offer COVID testing;
- understand the application process for administering the tests;
- understand which test to administer.

Please email your answers with your name and AGD number to flagdeditor@gmail.com or mail them to 9155 Audubon Park Ln. Jacksonville, FL 32257. In future Florida Focus issues, we plan to enable our members to submit answers online. 80% of the answers must be correct to receive credit. Answers for this exercise must be received by February 28, 2022.

1. **Unknown factors of COVID-19 vaccines include all the following except _____.**
a. Duration of immunity
b. Interaction with host DNA
c. Efficacy against current COVID-19 strains
d. Efficacy against future COVID-19 strains

2. **The B117, or UK, strain of COVID contains a mutation which makes it approximately ___% more contagious than the original strain.**
a. 25
b. 40
c. 50
d. 65

3. **At this time, current COVID-19 tests cannot detect new strains of COVID. The tests cannot distinguish or differentiate the variations in the strain.**
a. Both statements are true.
b. The first statement is true; the second is false.
c. The first statement is false; the second is true.
d. Both statements are false.

4. **Dentists are in a unique position to offer COVID-19 testing because**
a. We have the means to safely administer the tests.
b. We see the general population.
c. We are able to bill medical insurance for the procedure.
d. All of the above

5. **According to George Citroner from Healthline, about ___% of COVID-19 carriers are entirely asymptomatic.**
a. 5
b. 10
c. 15
d. 20

6. **Broad-scale testing in the dental practice may have all the following consequences except _____.**
a. Increasing the risk of spread within the practice.
b. Building trust in the safety of the practice.
c. Attracting patients who desire rapid test results.
d. Reducing the spread within the general population.

7. **The temporary use authorization (EUA) guarantees that the COVID-19 tests have met the full FDA requirements. Specific COVID-19 tests are technique-sensitive and require team members to pass a certification course.**
a. Both statements are true.
b. The first statement is true; the second is false.
c. The first statement is false; the second is true.
d. Both statements are false.

8. **The acronym CLIA is the abbreviation of…**
a. COVID-Limiting Implementation Act
b. COVID Liability Insurance Act
c. Clinical Laboratory Improvement Amendments
d. Comprehensive Laboratory Implementation Amendment

9. **The Certificate of Waiver is valid for ____ years and authorizes you to administer _____ laboratory tests.**
a. 2; Waived
b. 5; FDA-approved
c. 3; FDA-approved
d. 5; Waived

10. **All of the following except one are essential steps you need to take to offer COVID-19 testing in your practice. Which is incorrect?**
a. Check your state agency and boards for specific guidelines.
b. Apply for your CMS Provider number.
c. Apply for your CLIA Certificate of Waiver.
d. Order your testing supplies.

ACADEMY of GENERAL DENTISTRY®

2021 AGD Membership Application

Join online at agd.org, or call us at 888.243.3368 or 312.440.4300.

PROMOTIONAL CODE:

REFERRAL INFORMATION

If you were referred to the AGD by a current member, please note his or her information below:

Member's name

City, state/province, or U.S. Federal Services branch

MEMBER INFORMATION

First name | MI | Last name | Designation (e.g. DDS, DMD, BDS) | Primary Email address

Do you currently hold a valid U.S./Canadian dental license? ☐ No ☐ Yes: _____
License number | State/province | Date renewed (mm/yyyy)

Type of membership: (Check one.) ☐ Active general dentist ☐ Associate (dental specialist) ☐ Resident ☐ Dental student ☐ Affiliate

If you are not in general practice, please indicate your specialty: _____

Current dental practice environment: (Check one.) ☐ Solo ☐ Associateship ☐ Group practice ☐ Hospital ☐ Resident ☐ Corporate

☐ Other _____ ☐ Full-Time Faculty _____ (Please indicate institution) ☐ Federal Services _____ (Please indicate branch)

CONTACT INFORMATION

Your AGD constituent is determined by your business address, unless one is not available.

Preferred billing/mailing address: ☐ Business ☐ Home

Preferred method of contact: ☐ Email ☐ Mail ☐ Phone

Business address | City | State/province | ZIP/postal code

Name of business (If applicable) | Phone | Fax

Home address | City | State/province | ZIP/postal code

Phone | Cell phone | Alternate email | Date of Birth

EDUCATIONAL INFORMATION

Are you a graduate of an accredited* U.S./Canadian dental school? ☐ Yes ☐ No ☐ Currently enrolled

Dental school | State/province | Country | Date of graduation (mm/yyyy)

Are you a graduate of (or resident in) an accredited** U.S. or Canadian postdoctoral program?
☐ Yes ☐ No ☐ Currently enrolled Type: ☐ AEGD ☐ GPR ☐ Other

**Official accreditation is given by CODA in the U.S. and CDAC for all Canadian provinces. **Accredited dental residencies qualify for the resident membership rate. Official proof of enrollment must be provided to AGD.*

Postdoctoral institution | State/province | Country | Start date (mm/dd/yyyy) | End date (mm/dd/yyyy)

OPTIONAL INFORMATION

Gender: ☐ Male ☐ Female ☐ Prefer not to disclose

Ethnicity: ☐ American Indian ☐ Asian ☐ African-American ☐ Hispanic ☐ Caucasian ☐ Other

I am interested in participating in the AGD Mentor Match Program as a: ☐ Mentor ☐ Mentee

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DUES INFORMATION

Please check membership type applying for:

	U.S./ International	Canada (in U.S. dollars)	Puerto Rico
☐ Active General Dentist	$417	$374	$353
☐ Associate	417	374	353
☐ Affiliate	209	187	177
☐ Resident	20	17	20
☐ 2020 Graduate	84	75	71
☐ 2019 Graduate	167	150	141
☐ 2018 Graduate	251	224	212
☐ 2017 Graduate	334	299	282
☐ Dental Student	20	17	20

1. AGD Headquarters Dues: $_____
2. AGD Constituent Dues: $_____
3. AGD Component Dues: $_____

Please refer to back side for constituent and component dues.

Total Amount Enclosed: $_____

Dues rates effective through September 30, 2021.

I hereby certify that all of the above information is correct, and that by signing this application, I agree to all terms of membership including completion of 75 hours of continuing education every three years for active general dentist and associate members.

Signature | Date

Note: Check payment is required with hard copy applications. To pay with credit card, please apply online at agd.org/join-agd. If you have any questions, please contact our Membership Services Center at 888.243.3368.

Please sign this application and submit payment to:

Academy of General Dentistry
560 W. Lake St., Sixth Floor
Chicago, IL 60661-6600

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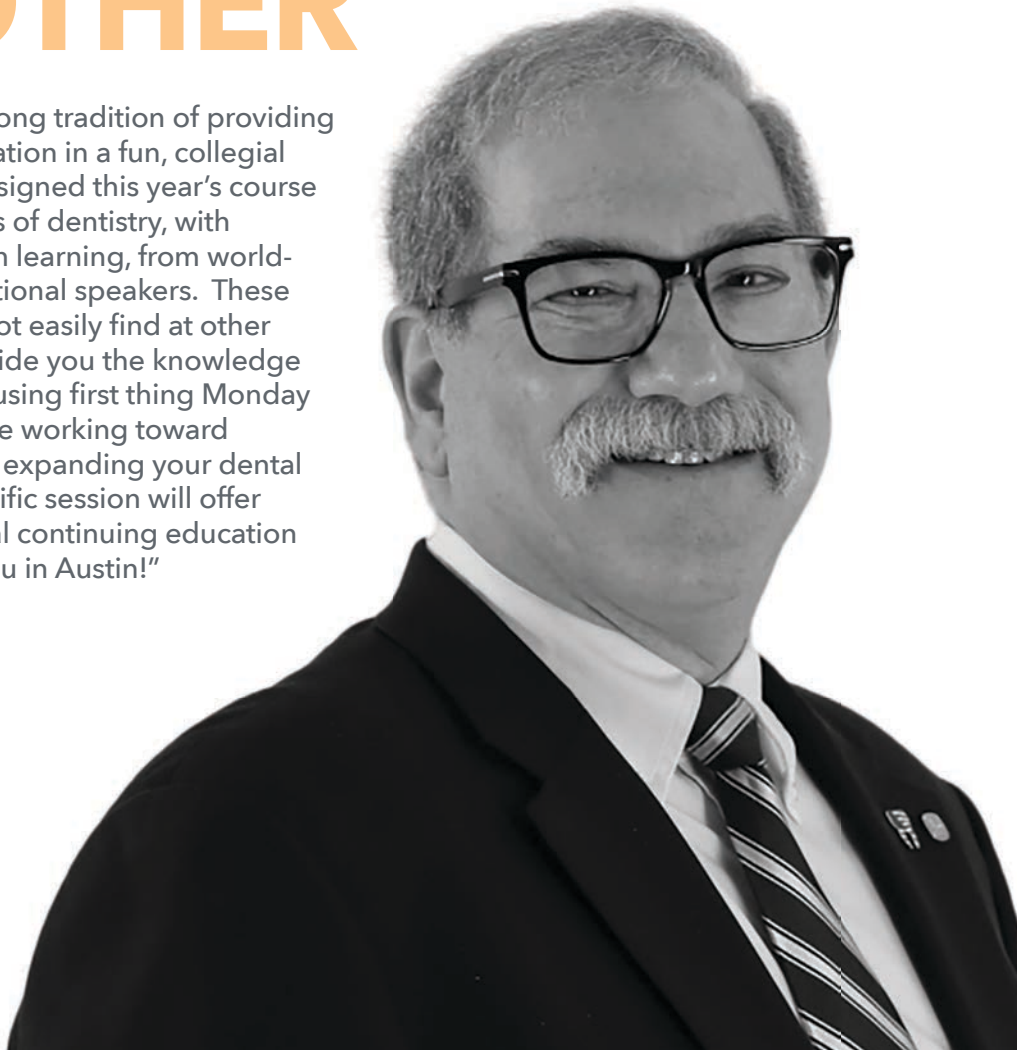
James K. Feldman, DDS
AGD2021 Program Chair



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