

# FACULTY PERSPECTIVE

## VIEWS ON DENTAL TOPICS & TRENDS



Contributed By: Dr. Najeed Saleh, Associate Dean of Clinical Affairs

## Managing Clinical Care in COVID-19

When I was asked to write this faculty perspective, I had to relive and reflect back on the intensity of these times, which started nearly eight months ago, yet seems to be years in the past. The “mission continuity” exercises we engaged in annually did not seem to have the scripts on how to manage the scale of operations imposed on us by the SARS-CoV-2 virus pandemic. There was no guide to follow and with the understanding of the virus constantly changing along with the CDC, governmental, and local mandates and guidelines, we have had to be continuously vigilant, updating our processes as needed.

### STRATEGIES FOR REOPENING

From March 16 through early June, we provided urgent and emergent care only to our patients, some in-person care and others through teledentistry (see related story, p. 10).

At that time, we could not engage in aerosol producing procedures due to the lack of N95

respirators. While having limited clinical operations, we continued to secure PPE and source N95 respirators. In addition, we continued to assess and adapt our operations, evaluating what was working and what wasn't and ensuring the latest guidelines were being followed. All of this in anticipation of reopening Penn Dental Medicine with as normal operations as feasible.

The strategies we followed in our preparations for reopening were based on the following:

- PPE supply — did we have a sustainable supply of proper PPE to keep everyone safe?

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“We have had to be continuously vigilant, updating our processes as needed.”

— DR. NAJEEED SALEH  
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- Nature of procedures — aerosol vs. non-aerosol, as well as prioritization of patients based on their needs and the stability and condition of their oral health.
- Level of community spread, which ultimately determines the risk of encountering and treating a potential COVID-19 carrier.
- Identifying high-risk patients, such as by age, pre-existing conditions, and those traveling on public transportation.
- Inclusion of teledentistry as an additional tool for providing care to a cohort of patients who could not be seen in person.

### POLICY DEVELOPMENT

Multiple iterations of policies were written that included:

- Facilities engineering modifications, such as traffic control to allow for physical distancing, HVAC filtering upgrades, enhancement of the number of air-exchanges each hour, introduction of plexiglass barriers, designation of dining areas, increase in the power of high-volume evacuation (HVE) during patient care, occupancy limitation in the patient waiting areas, and environmental infection-control measures (i.e., signage, hand sanitization stations, and antimicrobial wipes utilizing materials approved on the EPA “list N”).
- Masking requirements for all individuals entering Penn Dental Medicine.
- Screening stations for monitoring body temperature as well as symptoms/exposure attestation stations for students, faculty, and staff, in addition to screening stations for patients.
- Developing a COVID-19 infection-control supplement, following CDC and other regulatory authorities' guidelines, customized to Penn Dental Medicine clinics, procedures, and departments.
- Training on infection-control procedures, and scheduling and coordination of respirator fitting for all providers and clinical staff.

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## PERIODONTICS

## NEWS/ACHIEVEMENTS



**Dr. Esra Sahingur**, Associate Professor, was selected as a 2020-2021 fellow in Drexel University College of Medicine's *Hedwig van Ameringen Executive Leadership in Academic Medicine*® program. ELAM® focuses on increasing the number of qualified women for executive leadership positions in academic medicine, dentistry, public health, and pharmacy.

The **Dr. Rodrigo Neiva presents the Chair's Lecture Series** is presented virtually each week. See schedule at [www.dental.upenn.edu/cde](http://www.dental.upenn.edu/cde).

## SELECTED PUBLICATIONS

A selection of recently published work by department faculty (indicated in bold).

Ando-Sugimoto ES, **Benakanakere MR**, Mayer MPA, Kinane DF. *Distinct Signaling Pathways Between Human Macrophages and Primary Gingival Epithelial Cells by Aggregatibacter actinomycetemcomitans*. *Pathogens*. 2020 Mar 27;9(4):248. PMID: 32230992; PMCID:

**Fiorellini JP**, Sourvanos D, Crohin CC, Crohin M, Chang JJ, Mattos M, Ko KI. Diabetic Serum Inhibits Osteoblast Adhesion to Titanium Surface Through Advanced Glycation End Products: An In Vitro Study. *Int J Oral Maxillofac Implants*. 2020 May/Jun;35(3):551-559. PMID: 32406653.

**Graves D**, Cao Y, Coelho P, Witek L, Uhrich K. Salicylic acid polymers in periodontal tissue healing. *Emerging Therapies in Periodontics*; 2020. p. 43-53.

Hakam AE, Vila G, Duarte PM, Mbadu MP, Ai Angary DS, Aukhil I, **Neiva R**, da Silva HDP, Chang J. Effects of different antidepressant classes on dental implant failure: A retrospective clinical study. *J Periodontol*. 2020 Jul 29. PMID: 32725908.

Lv W, **Graves DT**, He L, Shi Y, Deng X, Zhao Y, Dong X, Ren Y, Liu X, Xiao E, Zhang Y. Depletion of the diabetic gut microbiota resistance enhances stem cells therapy in type 1 diabetes mellitus. *Theranostics*. 2020 May 17;10(14):6500-6516. PMID: 32483466.

Mooney EC, **Sahingur SE**. *The Ubiquitin System and A20: Implications in Health and Disease*. *J Dent Res*. 2020 Aug 27:22034520949486. PMID: 32853526.

Park M, Islam S, Kim HE, **Korostoff J**, **Blatz MB**, Hwang G, Kim A (co-author Dept. of Preventive & Restorative Sciences). Human Oral Motion-Powered Smart Dental Implant (SDI) for In Situ Ambulatory Photo-biomodulation Therapy. *Adv Healthc Mater*. 2020 Aug;9(16):e2000658. PMID: 32613767.

Perelli M, Abundo R, Corrente G, Saccone C, Sarmiento H, **Chang YC**, **Fiorellini JP**. The Long-Term Evaluation of Two-Unit Fixed Partial Dentures on Short, Threaded Implants: Delayed Versus Immediate Loading. *Int J Periodontics Restorative Dent*. 2020 Jul/Aug;40(4):e157-e162. PMID: 32559040.

**Sahingur SE**. *Emerging Therapies in Periodontics*. 2020th ed. Cham: Springer International Publishing; 2020. p. 1-271.

**Sahingur SE**. (2020) *Evolving Paradigms in the Pathogenesis and Management of Periodontitis*. In: Sahingur S. (eds) *Emerging Therapies in Periodontics*. Springer, Cham. [https://doi.org/10.1007/978-3-030-42990-4\\_1](https://doi.org/10.1007/978-3-030-42990-4_1)

**Teixeira HS**, Zhao J, Kazmierski E, Kinane DF, **Benakanakere MR** (co-author Dept. of Orthodontics). TLR3-Dependent Activation of TLR2 Endogenous Ligands via the MyD88 Signaling Pathway Augments the Innate Immune Response. *Cells*. 2020 Aug 17;9(8):E1910. PMID: 32824595.

## PREVENTIVE &amp; RESTORATIVE SCIENCES

## NEWS/ACHIEVEMENTS

In a study to determine the 100 most cited articles in prosthodontic journals between 1951 and 2019, *Resin-Ceramic Bonding: A Review of the Literature* (The Journal of Prosthetic Dentistry, March 2003) by **Dr. Markus Blatz**, Professor and Chair, ranked sixth for the most citations.

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The infection control policy also defines the self-monitoring, quarantining, and contact tracing protocols for our Penn Dental Medicine community.

## PATIENT CARE PROTOCOLS

In regard to patient care, preparations and protocols included:

- Preparing the dental units for operations — shocking the water lines, which had been idle for several months, with antimicrobial materials to ensure they were free from biofilm.
- Applying a phased approach, starting with 20-25% capacity and gradually increasing. Prioritizing patients based on their needs and required procedures. Scheduling longer appointments and eliminating walk-ins and double booking.
- Triage and screening of patients the day before the scheduled visit.

- Limiting the number of individuals accompanying a patient to one, who would go through the same screening process as the patient.
- Designating PPE donning and doffing areas.
- Defining the required PPE for patient care (scrubs, disposable gowns, N95 respirator or equivalent, surgical masks over N95, goggles/loupes, face shield, gloves, bonnet head covers, and bootie shoe covers).
- Using HVE and rubber dams when possible to mitigate aerosol.
- Defining operatory preparation protocols — Spray and wipe all surfaces with antimicrobial agent (EPA "List N"), use of barriers, cover all surfaces that are difficult to wipe, remove all items not required for patient care, update medical history and ask screening questions again, require patients to keep masks on until the start of care, ask patients to rinse with 1.5% H<sub>2</sub>O<sub>2</sub> and use hand sanitizer before and after dental care.

## THREE-PILLAR APPROACH

In addition to the infection control measures taken for patient care, our principles for mitigating the spread of COVID-19 in our facilities continue to be based on three pillars — physical distancing, facial masking, and hand washing/sanitization.

Challenges remain as COVID-19 cases continue to be on the rise in multiple states and around the world. We continue to face shortages in PPE, especially the N95 respirators, and we are constantly working to ensure we can keep Penn Dental Medicine open and our dental community safe.

I can't thank the entire Penn Dental Medicine community enough for the role they are playing in our successful operations, whether it is in patient care, education, or research. I would like to also extend my special thanks to Dean Mark Wolff for his leadership during these most difficult times.