Safe and Effective Dental Care After Covid-19: Improving Infection Control and Conserving PPE by Treating One Patient at a Time

Introduction: The Status Quo Will Not Work

It's a fact that many of the things we once took for granted in our personal and professional lives will now have two versions: The *Before Covid-19* version and the *After Covid-19* version. Looking into the near future, dentists will need to decide under what conditions they will re-open their practices *After Covid-19,* and the treatment protocols that must be adopted in order to keep patients, staff, and the dentists themselves safe in an environment that must still remain practical for delivering dental care.

There may be some tough choices. Infection control procedures in dental operatories will be paramount for limiting cross-contamination risk in dental offices. One of the most likely casualties of the "new normal" may be the formerly common practice of moving room-to-room and back again while treating multiple patients in parallel. Typically, *Before Covid-19* dentists left the operatory while the patient was getting numb, in order to conduct hygiene patient exams in another operatory. The doctor then returned to the first operatory to check if the patient was numb. A "miss" might result in another injection, another exit, and another return. While this practice may have made effective use of the 10-12 minutes of anesthetic latency time that was a part of each injection, it will not be acceptable in the *After Covid-19* world. This is because we are now aware that every entry, exit and re-entry requires the doffing and donning of PPE and presents an additional opportunity for the practitioner to become an unintentional vector for Covid-19. For doctors that still employ the practice, exiting and returning to the operatory during a procedure will be increasingly difficult to justify from an infection control standpoint.

In addition, exit and re-entry consumes PPE unnecessarily. Every dental practice is managing through the current PPE shortage and the uncertainty regarding future PPE cost and

Almost 10 years ago I observed a local anesthetic buffering system being used by Mic Falkel, DDS in his practice in Monterey, California. I could see right away how buffering local anesthetic at chairside could dramatically change the way my clients practiced. Using what is called the Onset® Buffering System, there was essentially no anesthetic wait time. They no longer needed to schedule a unit of time in each procedure to allow the local anesthetic to take effect. By eliminating that unit of time from the schedule, my clients could recapture two hours of doctor time per day and have a linear, more efficient practice flow, which is exactly what Dr. Falkel had done in his office.

Now as dentists are adjusting to the post Covid-19 era, buffering provides a method for better infection control and PPE conservation by allowing practitioners to enter the operatory, deliver the local anesthetic injection, go to work, and complete the procedure without ever leaving the patient's side. This dispenses with the once-common practice of leaving the operatory and returning 10-12 minutes later when the patient is typically likely to be numb.

Buffering, injecting, and staying with the patient for the whole procedure is called "**Seat, Treat & Complete**". It reduces PPE consumption by 50%, limits the cross-contamination potential inherent in exiting and re-entering the operatory during treatment, and makes each procedure much shorter and more efficient, allowing practices to treat patients in serial versus in parallel, while still maintaining their pre-Covid-19 practice volume.

Cindy J Ishimoto

Cindy J. Ishimoto
Practice Management Consultant

supply. Notably in this context, new guidance from the Centers for Disease Control[i] requires dental healthcare practitioners (DHCPs) that leave the operatory to doff all PPE before exiting the room. Under the new CDC guidelines, another set of PPE will now be consumed for each exit and re-entry.

The reality is, as one dentist explained to the author, that "no one is going to want to leave the operatory and come back in once the patient has been seated and treatment has started. The required donning and doffing process is too intense and too expensive to do more than once. Gone are the days of op-to-op dentistry."

This likely sums up one of the "new normal" scenarios that dental practices face, and it raises significant practical issues for my clients. Chief among them: How can a practice treating patients one-by-one maintain a volume of care that meets the needs of the patient base and a volume that supports the basic cost structure of the practice? This represents a major question requiring serious consideration as doctors evaluate the conditions and protocols under which they will reopen for business.

Fortunately, efficiency-centric dental practitioners have for years been working out a successful and practical methodology (some with my help) for seeing one patient at a time from start through completion, which eliminates transition time and which, in fact, is the optimal workflow for any task. In my experience a practice can see *more* patients providing treatment serially using what we call "**Seat, Treat & Complete**" versus going from operatory to operatory treating patients in parallel. In the serial treatment model, the doctor sits down with the patient and does not get up until the procedure is complete. This workflow actually results in a more natural, predictable, and easily coordinated order of tasks for everyone in the practice. However, this superior workflow was not traditionally the norm in dentistry – essentially because anesthetic latency has always imposed an unnatural break in the flow of treatment. Specifically, after giving the injection the dentist must stop treatment for 10-12 minutes to wait for profound anesthesia to occur. Of course, during this window the doctor and the dental assistant have the choice to do nothing and remain at the patient's side or to leave the operatory for 10 or 12 minutes to do something productive. Most DHCPs learned to use the time elsewhere rather than remain in the operatory and lose it. Still, even *Before Covid-19*, many of my clients knew that leaving the operatory to accomplish one or more collateral tasks and then returning was not an optimal or desirable workflow. It was simply considered the *least bad alternative* under the then-current anesthetic regime.

In the *After Covid-19* environment any not-strictly-essential process that increases potential cross-contamination in the dental office will likely be considered unacceptable, even in the case of anesthetic latency, where the exit-and-return model would otherwise make productive use of anesthetic wait time. It must be emphasized in the current crisis that any process responsible for burning through twice the PPE during a procedure is no longer either practical or cost-effective. For infection control and for PPE conservation, the exit-and-return process should no longer be viewed as the *least bad alternative*. *After Covid-19,* exit and return dentistry is simply not a viable option at all.

This brings us to one proven solution, which is to eliminate the long-standing source of the problem: local anesthetic latency. Many of my clients have adopted Onset® by Onpharma®, which is buffering technology that reduces latency from the normal 10-12

minutes down to 2 minutes or less. Onset has allowed them (even *Before Covid-19*) to sit down with the patient, give the injection, go to work, and complete the procedure without ever leaving the operatory. It also allowed them to schedule less time per procedure and to see more patients each day. As everyone in the productivity business knows, *transition time is a productivity killer* and every exit and return to the operatory represented a transition that disrupted the practice's workflow and wasted valuable doctor time. Adding to this cost, in the *After Covid-19* world the DHCP increases the risk of cross-contamination with each exit and return to the operatory. Finally, dental practices must take into account that a single exit and return cycle doubles the consumption of disposable PPE for the procedure.[ii]

The benefits of adopting the **Seat, Treat & Complete** model for delivering dental care *After Covid-19* can be summed up as follows:

- Seat, Treat & Complete reduces PPE consumption by 50%.
- It reduces operatory time for procedures by 25%-30%.
- It reduces potential cross-contamination events by 50%.
- It allows offices to maintain pre-Covid-19 practice volume.

The costs of adopting **Seat, Treat & Complete** are as follows:

- The practice must train staff and DHCPs to utilize a new scheduling protocol.
- The practice must adopt and train DHCPs on the technology for buffering local anesthetic cartridges at chairside.
- The practice must absorb the cost of buffering, about $10 per day.[iii]
- Each procedure must include about 5 seconds for buffering the anesthetic cartridge at chairside.[iv]

A number of my clients have also expressed an interest in evaluating ways that once their offices re-open, they can help their patients develop confidence in safely resuming their routine dental office visits. Every practice must make a determination on how it will convey information about the resumption of normal scheduling and what protections an office visit will entail *After Covid-19*. Many practitioners and their advisers are considering communicating the following about their new infection control processes and protocols:

- Patients will not congregate in the reception area, instead they will wait outside the building (where possible) and will be notified by phone or text when they can be seen, at which point they will enter the office and be seated in the operatory.
- Patients experiencing cold/flu/virus symptoms or who have household members experiencing cold/flu/virus symptoms will not come into the office, but will have their appointments rescheduled.
- The operatory will be wiped down and disinfected prior to the entry of each patient.
- Patient time in the operatory will be reduced by 25%-30%.
- The doctor and dental assistant will wear full PPE and will not leave the operatory and return during treatment, but will stay with the patient from start to finish; and
- After treatment, the patient and staff will handle administrative matters in the reception area, one patient at a time, using social distancing and appropriate infection control techniques.

Conclusion

We have entered a new era of consciousness regarding infection control at home, at work, and everywhere else one might venture. Three months ago, few people outside of the healthcare industry knew what PPE meant, now almost everyone knows the meaning of PPE. According to the New York Times, dentistry has the most risk of any profession in relation to Covid-19.[v] Serious consideration must be given to adopting a procedure flow within the office that limits the prospects for cross-contamination and conserves PPE as well as doctor time by treating one patient at a time. There is a tried and true methodology for scheduling and treating patients serially, which requires the adoption of buffering technology and learning to schedule patients in a new, more time-efficient manner. Using **Seat, Treat & Complete**, dental practices can effectuate a safer and more effective practice flow, and can maintain their *Before Covid-19* practice volume even in the *After Covid-19* environment.

[i] See Centers for Disease Control and Prevention, *Sequence for Donning and Removing Personal Protective Equipment,* which instructs HCPs to "Remove all PPE before exiting the patient room". This includes removing gowns, face shields, and gloves while in the operatory, and removing masks immediately after leaving the operatory, the HCP taking care not to contaminate his or her unprotected hands during mask removal. https://www.cdc.gov/hai/prevent/ppe.html, accessed May 3, 2020.

[ii] As an additional note on infection risk, dentists evaluating their practice flow have pointed out that every minute a patient is in the operatory the patient and the DHCPs are sharing the same air. According to the CDC, anytime an air/water injector is in use the operatory there is an increased risk of aerosol transmission of the Covid-19 virus. See, CDC Guidelines, *Interim Infection Prevention and Control Guidance for Dental Settings During the COVID-19 Response*, https://www.cdc.gov/coronavirus/2019-ncov/hcp/dental-settings.html, accessed May 1, 2020. As an additional form of infection control, DHCPs should incorporate any appropriate means of reducing the duration of time the patient and DHCPs spend in the operatory.

[iii] These figures are for the Onset System, which employs a "buffering pen" and a disposable sodium bicarbonate "buffering cartridge", capable of adjusting the pH of approximately 20 local anesthetic cartridges. The author has been working with clients to help them adopt Onset buffering technology and incorporate the Seat, Treat & Complete methodology since 2009. Information about the Onset System can be viewed at www.onpharma.com.

[iv] See footnote immediately above.

[v] New York Times, March 15, 2020, *The workers who face the greatest coronavirus risk*. https://www.nytimes.com/interactive/2020/03/15/business/economy/coronavirus-worker-risk.html (accessed March 2020).