Eight ways to keep your dental practice safer during COVID-19 crisis

By CURADER

KRIENS, Switzerland: During the ongoing COVID-19 crisis, the dental profession forms one of the most threatened groups. Close contact with patients, exposure to bodily fluids and the handling of sharp instruments all increase the risk of infection. So what can you do to keep yourself, your dental practice and your patients safe? We have compiled a list of procedures that you can implement in order to contribute to fighting any epidemic, not only the COVID-19 one, in your dental office.

While thorough handwashing and social distancing may be sufficient for the general populace, for dental practitioners, it is necessary to take far more complex precautions. This is because of the three principal modes of virus spread, all of which are relevant to the dental practice—airborne spread—owing to exposure to bodily fluids and generated droplets and aerosols; contact spread—owing to contact with bodily fluids, patient materials, contaminated dental instruments and environmental surfaces; and contaminated surface spread—since coronaviruses can persist on various surfaces for a prolonged time and could contaminate your whole dental office.

A recent study published in the International Journal of Oral Science has investigated the ways in which you can contribute to preventing infection in your dental practice and protect yourself, your staff and your patients from unnecessary viral contamination. These are the most important tips:

**Evaluate your patients**

The first step is identifying suspected cases of COVID-19 in order to avoid extended contact with a potentially infected patient. Screening your patients using a prepared questionnaire and taking adequate steps based on the results and the patient’s body temperature can go a long way. First of all, the body temperature of the patient should be measured. It is strongly recommended that a contact-free forehead thermometer is used for this.

The following set of screening questions can help identify potential infection:

1. Do you have a fever or have you experienced a fever within the past 14 days?
2. Have you experienced a recent onset of respiratory problems, such as a cough or difficulty in breathing, within the past 14 days?
3. Have you, within the past 14 days, traveled to areas with documented 2019-nCoV transmission?
4. Have you come into contact with a patient with confirmed 2019-nCoV infection within the past 14 days?
5. Have you come into contact with people who come from areas with recent documented fever or respiratory problems within the past 14 days?
6. Are there at least two people with documented experience of fever or respiratory problems within the last 14 days, having had close contact with you?
7. Have you recently participated in any gathering, meetings, or had close contact with many unquarantined people?

After the screening questionnaire:

- If the patient replies yes to any of the screening questions, and has or her body temperature is below 37.5°C, you can postpone the treatment until 14 days after the exposure event.
- If the patient replies yes to any of the screening questions, and his or her body temperature is 37.5°C or higher, the patient should be immediately quarantined, and you should report the case to the infection control department of the hospital or the local health department.
- If the patient replies no to all the screening questions, and his or her body temperature is below 37.5°C, you can treat the patient with extra protection measures and do your best to avoid spatter or aerosol-generating procedures.

**Reinforce your hand hygiene**

Although appropriate hand hygiene should already be a routine requirement, further reinforcement can help mitigate the risk of viral spread.

The study recommends following the two-before-and-three-after hand hygiene guidelines for dental professionals—

- before patient examination,
- before dental procedures,
- after touching the patient,
- after touching the surroundings and equipment that have not been disinfected, and
- after touching the oral mucosa, damaged skin or a wound, bodily fluid, secretion or excreta.

Moreover, all staff should take extra care to avoid touching their own eyes, mouths and noses.

**Take personal protective measures**

Since airborne droplets are considered to be the main route of infection spread, three-level protective measures are recommended.

- **Standard protection for staff in clinical settings.** Disposable work caps, surgical masks and working clothes (white coat), protective goggles or face shields, and disposable latex or nitrile gloves.
- **Advanced protection for dental professionals.** Additional disposable isolation clothing or surgical clothes over working clothes in addition to standard protection.
- **Strengthened protection for being in contact with patients with suspected or confirmed COVID-19.**

**Consider a mouth rinse before dental procedures**

Since SARS-CoV-2 is vulnerable to oxidation, preprocedural mouthrinse containing oxidative agents such as 7% hydrogen peroxide or 0.2% povidone-iodine is recommended for the purpose of reducing the salivary load of oral microbes, including potential SARS-CoV-2 carriage. (Note that chlorhexidine, most commonly used as mouthrinse, may not be effective at killing SARS-CoV-2.)

Furthermore, recent studies show that cyclodextrins—broad-spectrum antivirals—show promise for combating viruses. A preprocedural mouthrinse would therefore be most useful in cases when a dental dam cannot be used.

**Use dental dam isolation when possible**

The use of dental dams can significantly minimise the production of saliva and blood contaminated aerosols or spatter, particularly when high-speed handpieces and dental ultrasonic devices are used. The use of a dental dam could reduce airborne particles by 70% within a 1 m radius of the operational field. This benefit is especially valuable now.

When a dental dam is applied, additional high-volume suction should be used (for aerosol and spatter) during the procedures along with regular suction. If dental dam isolation is not possible, manual devices, such as Carisolv and a hand scaler, are recommended for caries removal and periodontal scaling, in order to minimise the generation of aerosol as much as possible.

**Employ anti-retraction handpieces**

A high-speed dental handpiece with no anti-retraction valves may suck in and expel debris and fluids. Microbes may further contaminate the air and water tubes within the dental unit and thus potentially cause cross-infection as well.

**Disinfect the clinic environment**

While you might be doing your best within your dental clinic, others might not. Therefore, you should take effective and strict disinfection measures in both your clinic settings and public areas. The clinic should be cleaned and disinfected regularly in accordance with available safety protocols, as should the public areas and appliances, including door handles, chairs, desks and lifts.

**Manage your medical waste properly**

Remember to dispose of your medical waste, including disposable protective equipment, timely and appropriately. Mark the surface of the bags and handle them according to the requirements for the management of medical waste. Also keep in mind that the waste generated by the treatment of patients with suspected or confirmed COVID-19 is regarded as infectious medical waste.

Usable instruments and items should be properly pre-treated, cleaned, sterilised and stored in accordance with your local protocols.

While none of these precautions can prevent or resolve COVID-19 on its own, all of them can contribute to keeping your dental practice and staff and patients safer and healthier—whether there is an ongoing viral epidemic or not.