

# Perform Aerosol Generating Procedures (AGPs) safely during a pandemic and beyond

By W&H

## Infection control in 2021 and beyond

The professional handling of aerosols, ensured by adhering to infection prevention procedures, such as wearing the correct PPE and using pre-procedural mouth rinses, HVE and dental dam, allow for the safe delivery of AGPs in dentistry.

## The risk of aerosol

Aerosol is a dispersion of solids or liquids in gas, such as air. It is by nature inevitable, and not bad or dangerous per se. Only when it is contaminated, it can pose a risk for infection. In dentistry, there are two main sources of aerosol formation: first, the coolant required to protect tooth structure from overheating when working with rotating or oscillating handpieces and second, the patient's mouth or operating site. The cooling water coming from the handpiece has no risk for infection, if there is appropriate equipment reprocessing and water line decontamination. Only when a water droplet comes in contact with a patient, it could have absorbed germs and been rebounded from the oral cavity spreading as infectious aerosol. The dispersion of the patient's bacterial and viral load cannot be prevented however. Even in the complete absence of cooling water, material is still aerosolized directly from the operating site. Thus, reducing aerosol emission from the handpiece by switching off the cooling spray cannot eliminate the risk for airborne contamination.

## Don't switch off safety

Highspeed preparation procedures require proper cooling not to risk the vitality of



the patient's teeth. Since a water jet alone does not have enough cooling efficiency, compressed air is added to create a spray. Small water droplets have higher moistening capabilities and achieve better cooling. Besides, the water spray cleans debris off the bur supporting cutting ability. Consequently, less load is needed, less heat generated and, thus, the risk for pulp tissue damage reduced even further. To avoid irrevocable damage to the tooth structure during highspeed preparation procedures, be sure to always choose a water-spray system. Don't risk thermal damage to vital teeth: Don't switch off safety!

## How can I protect myself, my team, and patients from aerosol?

You should not rely on a single method, but always engage in a multi-layer approach.

The following strategies are recommended to minimize the risk of airborne contamination for dental personnel and patients:

- Enhancing routine cleaning and infection prevention procedures: hand hygiene, surface decontamination and dental instrument reprocessing between patients are critical
- Wearing of the correct personal protective equipment (PPE): masks with particulate filter respirator (P2/N95), goggles, gloves etc.
- Applying patient triage to reduce the incidence of patients encountering each other
- Undertaking a pre-procedural mouth rinse for at least 20 seconds using either 1% hydrogen peroxide, 0.2% povidone iodine, 0.2% chlorhexidine, or essential oil mouth rinse
- Using High-Volume Evacuation (HVE) and dental dam wherever possible
- Ventilating treatment rooms and ideally leaving rooms vacant for 30 minutes following an AGP
- Ensuring dental unit water line decontamination
- Implementing sterilization procedures for single instrument traceability.

For more information on infection prevention [visit wh.com](http://www.wh.com)

