

IMPROVING SAFETY ON SEVERAL FRONTS

“Infection control extends beyond the point of contact with the patient,” explains health risk manager Linda Harvey, MS, RDH, HRM. “It includes everything going on in the operatory as well as the centralized heating and air conditioning system.” The pandemic only underscored the importance of addressing infection control on several fronts. Our dental industry has learned lessons that will serve staff and patient safety well for years to come.

LEVELS OF PROTECTION

Harvey describes three levels of protection, starting with the office’s heating, air conditioning and ventilation (HVAC) system (air flow) and then working in toward the operatory (aerosol control) and finally the patient (intraoral controls).

Level One: Air Flow

The Centers for Disease Control and Prevention (CDC) recommends that dental office HVAC systems perform six air exchanges per hour. Harvey suggests that dentists work with an HVAC specialist to evaluate the air exchanges in their offices. Before installing HEPA filters, check that the practice’s HVAC system is compatible. If it’s not, using HEPA filters can damage the system. Portable, industrial-grade HEPA units are an option where the filters can’t be used.

Level Two: Aerosol Control

In the operatory, the fresh air vent should be overhead with a return near the foot of the chair to keep air circulating. Contaminants should always be pulled away from the patient chair.

Level Three: The Patient

At the patient level, infection control includes dental dams to reduce saliva and blood in aerosols, as well as high-volume evacuators and extraoral suction devices. All three devices aid in reducing aerosols that are emitted into the air.



REDUCING DISEASE TRANSMISSION

Harvey emphasizes four key areas for reducing potential disease transmission in the dental practice: single-use products, digital impressions, HVE systems and air purification systems.

Digital Impressions

Traditional dental impressions present various opportunities for disease transmission, including when the impression tray is removed from the patient's mouth contaminated with saliva and blood. The impression can be disinfected for storage and shipping, but these protocols may not be followed, presenting the potential of cross-contamination between the dental office and the lab. Digital impressions can help minimize those concerns by removing many of those cross-contamination opportunities.



Single-Use Products

From disposable impression trays to prophylaxis angles and burs, products designed for single use eliminate the risk of patient-to-patient disease transmission. Keep in mind that labeling may not specifically identify the product as single use, but if no instructions are available for reprocessing, it should be discarded appropriately after being used with one patient.

HVE Systems

HVE systems, which have an internal diameter of 13 mm or more, can reduce the number of bacteria produced during dental procedures by 90% to 95%. Many of these systems fit in the patient's mouth or around ultrasonic tips or air polishing units, so they can be used without an assistant. It's important to note that disposable saliva ejectors do not perform high-volume evacuation; the inside diameter of ejectors is too small to remove spatter and aerosols.



Air Purification Systems

During the pandemic, many offices began using air purification devices at the chairside. A study by Chen and colleagues found that using an air purification system can be an effective method for reducing dental office staff exposure to airborne droplets and aerosols. However, as Harvey points out, these devices must be properly placed at the foot of the patient chair. Otherwise, the air is drawn across the clinician and patient and potentially out into the hallway.

STANDARD OF CARE

Dental professionals have learned a great deal during the past year as we adopted new rules and regulations, implemented technology that allowed us to see patients safely and adapted to a rapidly changing public health crisis. Dentistry proved itself to be open to new ideas, many of which will become standard of care for the future. The profession placed patient and team member safety first and created a new practice paradigm that will sustain offices both large and small.

Explore safety-enhancing solutions for your practice.

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