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# Hand Hygiene in the Dental Industry

## SUMMARY

The following white paper outlines the Centers for Disease Control and Prevention (CDC) guidelines for infection control in dental healthcare settings with respect to hand hygiene. Hand hygiene is defined as the process of removing microorganisms from the hands so germs cannot be transmitted to anyone else. Hand washing with soap and water and using an alcohol based hand rub (ABHR) are the two most common types of applying effective hand hygiene.

## INTRODUCTION

The practice of good hand hygiene has long been recognized as the most effective way to reduce the transmission of pathogens on the hands in healthcare settings. In 2003, the CDC consolidated previous recommendations and added new guidelines specific to the dental industry. Dental healthcare providers (DHCP) should be familiar with existing CDC guidelines as the American Dental Association (ADA) follows these guidelines. It is important that the DHCP remain compliant within the industry while understanding the potential impact to their practice. In addition to summarizing the hand hygiene guidelines, this white paper will also provide recommendations for infection prevention.

## THE CHALLENGE

Most DHCPs don't often practice proper hand hygiene. With the amount of patients they see each day, there often isn't time between patients to effectively comply with CDC guidelines. Noncompliance with hand hygiene practices is associated with the spread of pathogens. Because of this, they are at risk for infection, as well as infecting future patients.

According to the CDC, an estimated 9 million people work in the healthcare industry in the United States, including approximately 170,000 dentists, 110,000 registered dental hygienists and 220,000 dental assistants. These dental healthcare providers can be exposed to pathogenic microorganisms that infect the oral cavity or respiratory tract. These organisms can be transmitted in dental settings through:

1. direct contact with blood, oral fluids, or other patient materials;
2. indirect contact with contaminated objects (e.g., instruments, equipment, or environmental surfaces);
3. contact of conjunctival, nasal, or oral mucosa with droplets (e.g., spatter) containing microorganisms generated from an infected person and propelled a short distance (e.g., by coughing, sneezing, or talking); and

4. inhalation of airborne microorganisms that can remain suspended in the air for long periods (1).

Infection through any of these routes requires that all of the following conditions be present:

- a pathogenic organism of sufficient virulence and in adequate numbers to cause disease;
- a reservoir or source that allows the pathogen to survive and multiply (e.g., blood);
- a mode of transmission from the source to the host;
- a portal of entry through which the pathogen can enter the host; and
- a susceptible host (i.e., one who is not immune) (2).

## **THE SOLUTION**

Hand hygiene substantially reduces potential pathogens on the hands and is considered the single most important way to minimize the risk of transmitting organisms between patients and healthcare providers. The CDC guidelines state hands need to be cleaned when they are visibly dirty, after touching contaminated objects with bare hands, and before and after patient treatment (3).

The preferred method of hand hygiene largely depends on the type of procedure and degree of contamination. Plain soap is good for reducing bacterial counts, antimicrobial soap is better, and ABHRs are best, providing activity that prevents or inhibits survival of microorganisms after the product is applied (4).

Washing hands thoroughly with soap and water takes 45-60 seconds. The process includes:

1. wetting hands with water;
2. applying enough soap to cover all hand surfaces;
3. rubbing hands together, covering all exposed parts with soap for 45 seconds;
4. rinsing hands with water; and
5. drying with a single use towel.

Cleansing with an ABHR takes 15-20 seconds. You must:

1. apply a palmful of ABHR into hand;
2. rub hands together, covering all exposed parts, for 15 seconds; and
3. once dry, your hands are safe.

However, not all ABHRs are created equal. The FDA's Healthcare Personnel Handwash germ kill requirements include a 3 Log Reduction in bacteria after 10 cycles (5). A 3-Log Reduction means the number of germs is 1,000 times smaller, which equates to a 99.9% reduction in potentially harmful microorganisms. PURELL Advanced Instant Hand Sanitizer is the only ABHR to meet and exceed these FDA requirements.

## CONCLUSION

In summary, the recommendations outlined above support the situation analysis defined in this white paper. Develop a written health program in your practice that includes policies and procedures associated with hand hygiene to advocate for consistency and standardization. Using an ABHR like PURELL Advanced will encourage hand hygiene by saving time and effectively killing more germs. By adhering to these guidelines, DHCPs can educate themselves as well as remain compliant with federal regulations.

For the full guidelines, visit [Guidelines for Infection Control in Dental Health-Care Settings --- 2003](#)

## SOURCES

- 1 Bolyard EA, Tablan OC, Williams WW, Pearson ML, Shapiro CN, Deitchman SD, Hospital Infection Control Practices Advisory Committee. Guideline for infection control in health care personnel, 1998. *Am J Infect Control* 1998;26:289--354.
- 2 Greene VW. Microbiological contamination control in hospitals. 1. Perspectives. *Hospitals* 1969;43:78--88.
- 3 CDC. *MMWR* 2003;52(No. RR-17)
- 4 <http://www.cdc.gov/HandHygiene/index.html>
- 5 Healthcare Personnel Handwash Study #110103-101, April 5, 2011. BioScience Laboratories, Bozeman, MT.

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