



Hand Hygiene Compliance in the Dental Setting

A guide to creating a sustainable hand hygiene protocol

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A renowned chocolate maker in the Midwest supplies high-quality gourmet confectionaries locally and throughout the country. While touring this facility last spring, I noted the greeting area was warm, welcoming, and informal, and the aroma of chocolate was intoxicating. However, as our tour group prepared to enter the chocolate production area, I perceived a subtle shift in the tone of the presentation. There was a noticeable firmness and clarity in the messaging as the tour guide prepared the group to enter the

working area, giving particular detail and emphasis when discussing head and foot coverings (specific to the food industry) and hand hygiene practices. A well organized, spacious, and attractive area was completely dedicated to hand hygiene. A sink, alcohol-based hand sanitizer, soap, hands-free paper towel dispenser, and trash bin were optimally placed adjacent to the entrance doors of the food preparation area. In addition, a large and attractive poster was prominently displayed demonstrating why, when, and how to wash hands, and an employee stood guard adjacent to the locked steel door entrance to the food preparation area attentively observing

the proceedings. His nametag displayed the title “Guest Relations,” but it quickly became evident that this employee’s primary role was “hand hygiene enforcer.” While maintaining a warm, welcoming, and kind demeanor, this employee observed guests engaging in hand hygiene, and offered words of encouragement, suggestions, and gratitude for a job well done. Entrance to the factory was granted only after his direct observation of confirmed effective hand hygiene practice.

As a hopeless infection control geek, I ignored my family’s pleas to not embarrass them, and sought out this employee for further discussion. I remarked on his effectiveness and enforcement techniques, and I inquired what the hand hygiene compliance rate was for guests entering through those steel doors. He seemed to sense that I was a kindred spirit in this regard, and looked me directly in the eye and said, “On my watch, 100%.” I liked him immediately and these events obviously further fueled my high regard and justification for consuming their chocolate!

The Problem of Compliance

In health care settings, hand hygiene is consistently shown to be the most effective and simple means of preventing the transmission of infectious diseases.¹ Studies demonstrating the effectiveness of hand washing in disease prevention date back over a century and a half and occur mostly in in-patient settings. Clean hands are equally important in dental settings, as they afford protection for both the patient and the dental professional. Yet compliance in health care settings is estimated to be less than 50%.² Sadly, the probability that one’s health care provider is engaging in hand hygiene prior to examination or treatment is as simple and poor as flipping a coin. Promotion of hand hygiene has historically been a surprisingly difficult challenge in medical and dental settings, and infection control experts continue to explore methods of enhancing and enforcing compliance.

Reasons and risk factors for hand hygiene noncompliance have been assessed in many studies. Poor compliance has been associated

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with inconveniently located sinks, lack of products, a belief that glove use precludes the need for hand hygiene, a low perceived risk of infection transmission from patients, understaffing and insufficient time, and ignorance and/or disagreement with guidelines and protocols.³ Clinicians may also experience skin irritation from hand hygiene agents,⁴ as incomplete removal of chemical agents or incomplete drying of hands may lead to dry, irritated, and inflamed hands. Dental personnel need to be informed about these effects, as lack of education on this topic may be an additional important barrier to compliance.

The Multimodal Approach

Specific methods and techniques have been attempted to motivate clinicians to improve hand hygiene compliance. Unfortunately, these individual endeavors are generally associated with transient improvement,^{5,6} and compliance often wanes shortly thereafter. No single intervention has consistently been sustainably effective. Infection prevention experts agree that adopting several enhancement techniques or a “multimodal approach” provides the best chance for a successful and sustainable hand hygiene program. With this method, various combinations or bundles of interventions are adopted and this subsequently leads to lasting improvements in hand hygiene compliance.^{7,8} This multimodal approach includes anticipating obstacles to compliance and reinforcing behavioral changes.

The chocolate factory appears to have adopted this multimodal blueprint to address hand hygiene compliance and implemented several interventions simultaneously. Strategies within the facility include the informational poster, a variety of well-placed products, a conveniently located sink, a hands-free paper towel dispenser, a spacious area dedicated to hand hygiene activities, and employment of a guard to enforce compliance to an impressive 100%. Visitors and employees of this facility can't help but be aware that hand hygiene is a firmly established high priority.

Adapting these chocolate factory compliance methods within dental facilities would be ideal. However, practical limitations exist; as dental operatories generally

have limited space, large posters may be inconsistent with the interior design of dental facilities, and employment of “hand hygiene police” is generally not allocated in the budget of dental practices. Still, the dental profession may have much to learn from this confectionary.

Some of these observed practices could be adopted and modified to enhance hand hygiene compliance within the dental profession. Potential multimodal strategies may include several (or most) of the following:

Set the Tone

Administrative leadership can create a culture of hand hygiene compliance. Studies indicate there is a correlation between a clinical leader and staff with regard to

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hand hygiene behavior,⁹ as leadership personnel serve as role models for other dental health personnel.

Use Alcohol-Based Hand Rubs

Alcohol-based rubs are a good option if hands are not visibly soiled. Alcohols are less irritating than antiseptic or non-antiseptic soap, and formulas with added emollients are at least as well tolerated and efficacious as soap. Several recent prospective, randomized trials have demonstrated that alcohol-based hand rubs containing emollients were better tolerated by health-care workers than washing hands with non-antimicrobial or antimicrobial soaps.¹⁰ In addition, alcohol-based hand rubs require less time and act more quickly than other hand hygiene agents.

Stay Moisturized

Encourage the frequent use of hand lotions to enhance epidermal health. Hand hygiene agents are associated with skin dryness and

irritant contact dermatitis. Hand lotions contain humectants and various fats and oils that help keep skin soft, pliable, and hydrated. Products formulated for healthcare providers are recommended because they contain fewer scents and are compatible with both latex and synthetic gloves.

Focus on Availability and Accessibility

Hand hygiene products should be easy to use and readily available and accessible for clinical personnel. Purchase and supply hand hygiene products that have been manufactured for health care providers.

Use a Buddy System

Team members may offer tips, feedback, and positive reinforcement on hand hygiene to other dental personnel throughout the clinical workday.

Provide Reminders

Promotional articles such as leaflets and other items with hand hygiene campaign slogans can be distributed; screensavers promoting hand hygiene can also be used to serve as reminders.

Include Clinical Staff in Product Selection

Product selection should be based upon dermal tolerance, skin reactions, fragrances, and consistency.

Offer Education

Written guidelines, regulations, and office compliance requirements for hand hygiene should be made available to all clinical personnel. There should be periodic review of regulatory documents, including the Centers for Disease Control and Prevention's guideline “Hand Hygiene in Healthcare Settings,”¹¹ which is available at cdc.gov/handhygiene.

Ensure Ongoing Discussion

Various educational components and the importance of hand hygiene can be reviewed at the morning huddle. Recent literature, updates, or new product information should be shared with dental team members.

Provide Performance Feedback

Hand hygiene compliance should be assessed during annual individual employee evaluations. Team leaders may provide immediate feedback to other dental personnel after observing hand hygiene.

Involve Employees

Dental team members should be encouraged to offer input and other creative and fun suggestions to enhance compliance.

Conclusion

Proper hand hygiene at key moments during patient care is the most effective means of preventing infection transmission. Multimodal strategies have emerged as the best approach to improving hand hygiene compliance. These strategies use a variety of intervention components intended to address obstacles to hand hygiene practices and reinforce behavioral changes that are sustainable. A coordinated effort adopting a “bundle” of compliance strategies will enhance a cohesive program to enhance good hand hygiene practices. By adopting a multitude-of-methods action plan, dental facilities can challenge our friends in the chocolate-making business and also approach a hand hygiene compliance rate of 100%.

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