

INFECTION CONTROL 101

WITH PRACTICAL LINKS FOR THE DENTAL PROFESSIONAL

To move forward, sometimes you first have to move backwards.

Karen K. Daw, MBA, CECM



Yes, everyone is up to their eyeballs in coronavirus updates and new guidance. Yes, the amount of work involved in enhancing safety compliance programs can almost be a full-time job. And yes, dental professionals have built more effective, educated practices as a result of these changes. Some practices were already performing at a high level of infection control and safety, and yet others had a much larger gap to traverse to meet the new guidance for treating patients in a pandemic because they never got the infection control basics. Even something as simple as hand hygiene isn't understood, or is known, but lacks the basics. To successfully navigate this pandemic, and future infection control challenges for that matter, there must be a solid foundation to build on. In other words, you may want to construct the Freedom Tower, but it's difficult to do it on swamp land. To help the dental industry move forward in the name of safety, sometimes we must take a step backwards.

Hand hygiene

The single most important thing that you can do to prevent the spread of infection is proper hand hygiene. This is almost word for word in the CDC's 2016 *Summary of Infection Prevention Practices in Dental Settings* (which is fundamental to good infection control practices and is something that is recommended every practice read)¹.

It is as simple as that - just wash your hands!

The best way is by using water and regular soap after routine exams and non-surgical procedures, and when changing personal protective equipment. If handwashing is not possible, then an alcohol-based hand rub is appropriate. For surgical procedures, CDC recommends a surgical-grade hand scrub used before putting on sterile gloves.

But here's the rub (pun intended), there's a time associated with this. Ask any kindergartner and they will tell you to wash your hands while singing ABC's once slowly, or "Twinkle, Twinkle,

¹ <https://www.cdc.gov/oralhealth/infectioncontrol/pdf/safe-care2.pdf>

SPONSORED BY

SciCan | Your Infection
Control Specialist

Little Star” twice quickly because doing so means you will have performed this important step for at least 20 seconds.

And there’s the technique to consider. CDC explains the proper way to wash one’s hands²:

- 1 Wet your hands with clean, running water (warm or cold), turn off the tap, and apply soap - *water first, soap second*.
- 2 Lather your hands by rubbing them together with the soap. Lather the backs of your hands, between your fingers, and under your nails - *get all the surfaces*.
- 3 Scrub your hands for at least 20 seconds. Need a timer? Hum the “Happy Birthday” song from beginning to end, twice. Want to make this more fun? *Check out the paragraph after “hand sanitizer”*.
- 4 Rinse your hands well under clean, running water.
- 5 Dry your hands using a clean towel or air dry them - key word, *“clean” towel, not the reusable ones on an endless loop that God knows only when it was last cleaned!*

Washing hands with soap and water is the best way to get rid of germs in most situations. If soap and water are not readily available, you can use an alcohol-based hand sanitizer that contains at least 60 percent alcohol (check the label if unsure). Sanitizers can quickly reduce the number of germs on hands in many situations, however, sanitizers do not get rid of all types of germs and may not be as effective when hands are visibly dirty or contaminated. In fact, when soiled or contaminated, always wash with soap and water. For almost all other occasions, you can gel-in and gel-out to your heart’s content.



The proper way to use hand sanitizer, according to CDC, is:

- 1 Apply the gel product to the palm of one hand (read the label to learn the correct amount).
- 2 Rub your hands together.
- 3 Rub the gel over all the surfaces of your hands and fingers until your hands are dry. Again, this should take around 20 seconds.

Tired of the same ol’ songs and need some inspiration? Check out <https://washyourlyrics.com/>. Choose any song, and either “soap and water” or “hand sanitizer” and in a click of a button this ingenious site will create a printable with the song lyrics accompanying the steps for hand hygiene that stops at the 20 second mark. *Never gonna give you up, never gonna let you down...*when it comes to clean hands!

² <https://www.cdc.gov/oralhealth/infectioncontrol/pdf/safe-care2.pdf>

PPE

When asked “What do you do to protect yourself from hazards in the workplace” almost always the response is “PPE”. Personal Protective Equipment is a key component in infection control. It not only protects you but can also protect the patient. Want proof? Check out ‘Jenn’s Vision’ Facebook page to read an empowering story of a patient who had a dental needle dropped into her eye!

As a result of COVID, PPE recommendations currently include respirators, gowns and face shields. However, for practices in low-risk areas, and where the primary occupational hazard is bloodborne, here’s what we should have been doing all along:³

Masks, protective eyewear, face shields

- Wear a surgical mask and either eye protection with solid side shields or a face shield to protect mucous membranes of the eyes, nose, and mouth.
- Change masks between patients or if the mask becomes wet during patient treatment.
- Clean reusable face protection between patients (with soap and water) or if visibly soiled (by cleaning and disinfecting).

Protective clothing

- Wear gowns or lab coats that cover skin and personal clothing likely to become soiled with blood, saliva, or infectious material.
- Change if visibly soiled.
- Remove all barriers before leaving the work area.

Gloves

- Prevent contamination of DHCP’s hands when touching mucous membranes, blood, saliva, or other potentially infectious materials.
- Reduce the likelihood that microorganisms present on the hands of DHCP will be transmitted to patients during surgical or other patient-care procedures.
- Gloves do not eliminate or replace the need for handwashing.

And just as important as having the correct PPE is knowing the right way to put it on and take it off (or “don/doff” if you want to sound like an expert to an OSHA inspector). Believe it or not, this is something that people do wrong all the time. The right way, according to the CDC, is listed below.⁴ For bonus points, mime the steps!

Gloves

1. The outside of gloves are contaminated
2. Grasp outside of glove with opposite gloved hand; peel off
3. Hold removed glove in gloved hand
4. Slide fingers of ungloved hand under remaining glove at wrist
5. Peel glove off over first glove
6. Discard gloves in waste container

Goggles or face shield

1. The outside of goggles or face shield is contaminated
2. To remove, handle by head band or ear pieces
3. Place in designated receptacle for reprocessing or in waste container

³ <https://www.osha.gov/Publications/OSHA3990.pdf>

⁴ <https://www.cdc.gov/HAI/pdfs/ppe/ppeposter148.pdf>

Gown

1. The gown front and sleeves are contaminated
2. Unfasten ties
3. Pull away from neck and shoulders, touching inside of gown only
4. Turn gown inside out
5. Fold or roll into a bundle. Discard if not reusable.

Mask or respirator

1. The front of mask/respirator is contaminated – do not touch
2. Grasp bottom, then top ties or elastics and remove
3. Discard in waste container

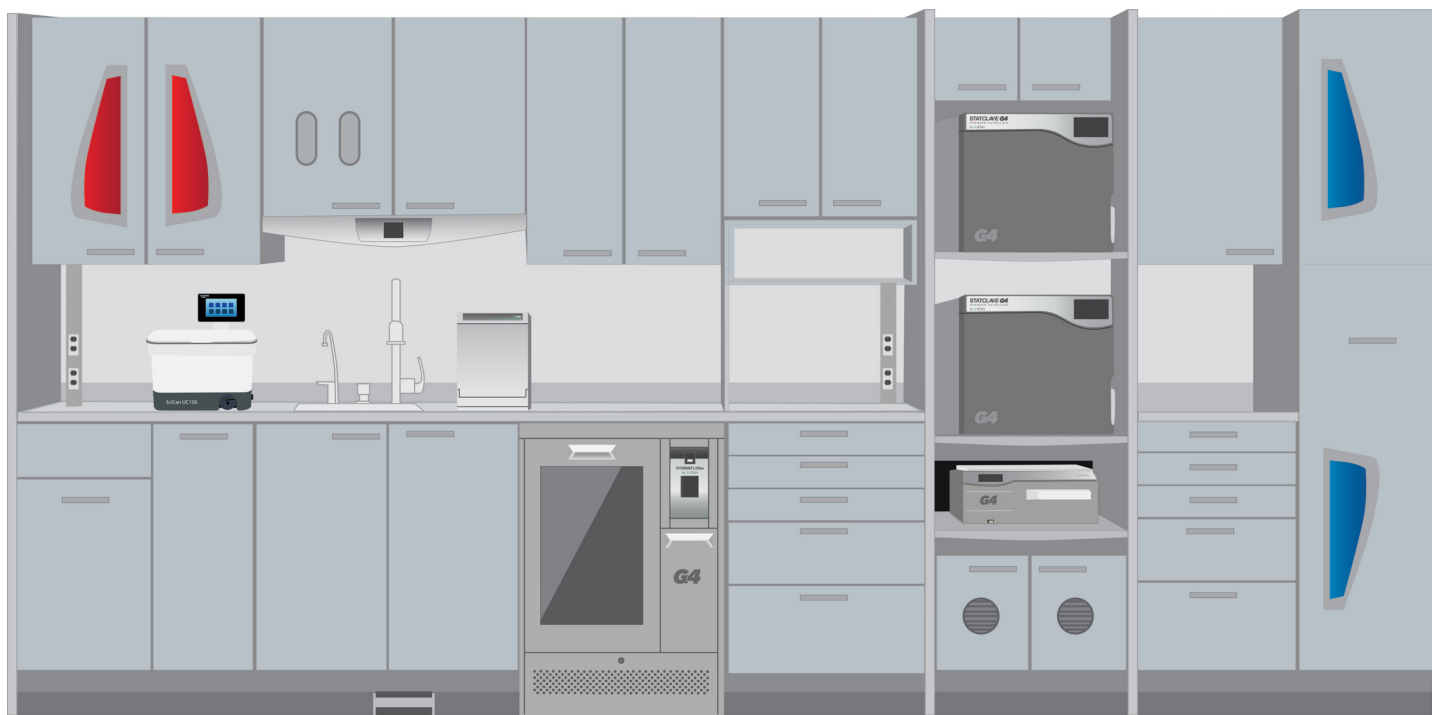
These steps (along with helpful illustrations) can be found at CDC's website in a handy, downloadable [poster](https://www.cdc.gov/infectioncontrol/guidelines/disinfection/introduction.html).

Disinfection and sterilization

Sometimes the terms “disinfection” and “sterilization” are used interchangeably by even healthcare professionals, though they are very different. This is especially unfortunate, because different processes and procedures at the dental practice call for different levels of treatment.

CDC explains the differences between sterilization and disinfection like this:⁵

“Sterilization describes a process that destroys or eliminates all forms of microbial life and is carried out in health-care facilities by physical or chemical methods. Steam under pressure, dry heat, EtO gas, hydrogen peroxide gas plasma, and liquid chemicals are the principal sterilizing agents used in health-care facilities. Sterilization is intended to convey an absolute meaning; unfortunately, however, some health professionals and the technical and commercial literature refer to ‘disinfection’ as ‘sterilization’



⁵ <https://www.cdc.gov/infectioncontrol/guidelines/disinfection/introduction.html>

and items as ‘partially sterile.’ When chemicals are used to destroy all forms of microbiologic life, they can be called chemical sterilants. These same germicides used for shorter exposure periods also can be part of the disinfection process (i.e., high-level disinfection).”

There are practical considerations for sterilization and the sterilization area [like this one](#). Since instrument reprocessing hasn’t changed as a result of the pandemic, let’s focus on one area that really needed our attention: disinfection. Even though surface disinfection seems easy it is still commonly performed incorrectly. Often, disinfecting wipes are used to clean rooms after a patient visit or cleaning in the sterilization area. It seems like that should be sufficient, but it is not. Usually, the wipe must be used on a pre-cleaned surface. In other words, you may need two wipes: one to clean and one to disinfect unless the label says “One step cleaner and disinfectant”.

If you use a disinfectant, you may not be able to just walk away. Disinfectants must remain wet for a certain period of time to be effective. What it comes down to is this: make sure you read the manufacturer’s instructions for use.

Dental Water

Dental unit water lines have, unfortunately, made the news in recent years, and not for good reasons. *Outbreaks of Mycobacterium abscessus* at pediatric dental offices in 2015 in Georgia and 2016 in California affected dozens of children because of water lines contaminated with biofilm. These could have been avoided by following CDC guidelines. And in the era of COVID, the term “aerosols” is ubiquitous among team members and patients so focusing on water quality will benefit the practice.

According to CDC⁶, “All dental units should use systems that treat water to meet drinking water standards (i.e., ≤ 500 CFU/mL of heterotrophic water bacteria). Independent reservoirs—or water-bottle systems—alone are not sufficient. Commercial products and devices are available that can improve the quality of water used in dental treatment. Consult with the dental unit manufacturer for appropriate water maintenance methods and recommendations for monitoring dental water quality. During surgical procedures, use only sterile solutions as a coolant/irrigant using an appropriate delivery device, such as a sterile bulb syringe, sterile tubing that bypasses dental unit waterlines, or sterile single-use devices.”

Our friends at the Organization for Asepsis Prevention and Control recommend quarterly testing of water lines to ensure the water generated is safe for patients and employees. The entire guidance document can be found here: https://www.osap.org/page/Issues_DUWL

STATIM® G4 Cassette Autoclave



⁶ <https://www.cdc.gov/oralhealth/infectioncontrol/summary-infection-prevention-practices/dental-unit-water-quality.html>

⁷ <https://www.cdc.gov/oralhealth/infectioncontrol/pdf/safe-care2.pdf>

Infection prevention coordinator

There is a lot going on in dentistry where infection control is concerned. And, while dental health care professionals go to great lengths to ensure proper infection prevention is observed, it is helpful to have a point person coordinating the practice's efforts. The CDC, in its 2016 Summary of Infection Prevention Practices in Dental Settings, says as much.⁷

"At least one individual with training in infection prevention — the infection prevention coordinator — should be responsible for developing written infection prevention policies and procedures based on evidence-based guidelines, regulations, or standards," the summary reads. "Policies and procedures should be tailored to the dental setting and reassessed on a regular basis (e.g., annually) or according to state or federal requirements." Here's the entire FREE infection control checklist from the CDC: <https://www.cdc.gov/oralhealth/infectioncontrol/pdf/safe-care-checklist.pdf>

HYDR/M® L110W G4 Automated Instrument Washer



That infection prevention coordinator is the person designated within the practice to manage all the responsibilities that come with a good infection control program. Sometimes this person also takes on OSHA responsibilities. For instance, this person will manage safety data sheets (SDS) and coordinate safety drills.

This person is also the one who heads up day-to-day infection control management. If a team member does not wear proper PPE, the infection prevention coordinator enforces that. The coordinator also ensures staff keep up on their required training and education. The coordinator stays up to date on infectious diseases and how to prevent them.

Designating one person to do that ensures that everyone in the practice gets the same, timely information. CDC recommends "periodic" reviews; OSHA's bloodborne pathogen standard requires a yearly review of the exposure control plan. If an incident does occur at the practice, the infection prevention coordinator spearheads efforts to mitigate and correct the problem.

Often, this person is also a full-time hygienist, dental assistant, practice manager and even the dentist. As you can see, this person is a DHCP, compliance officer, cheerleader, and coach all in one! While one person oversees the program, delegating helps to build a culture of safety. Want to empower this person in your practice? Consider sending them to OSAP's Boot Camp, www.osap.org. Ready to up your Infection Control game? Earn the first of its kind, Dental IC credential: <https://dentalinfectioncontrol.org/>

Respiratory hygiene

COVID-19 has put a spotlight on the need for, and requirements of, good respiratory

⁸ <https://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm>

hygiene. But once the pandemic is over, we'll need to protect ourselves from plenty of other infections that can be spread through respiratory means, including the yearly flu virus. Once the pandemic is over, preventing transmission is as simple as following some common sense steps. CDC recommends the following processes be implemented at the first point of contact with a potentially infected person:⁸

- **Visual alerts** – Post adequate signage at the entrance to facilities instructing patients, and those who accompany them, to inform healthcare personnel of any symptoms of respiratory infection. Visual alerts should advise patients about covering their cough and information about personal protective equipment, like using supplied products at an infection prevention station.
- **Respiratory hygiene/cough etiquette** – Those demonstrating a cough may still need to be seen. And, in such cases, those with signs and symptoms of respiratory infection should be advised to cover their mouth and nose with a tissue while coughing or sneezing; disposing the tissue in the nearest waste receptacle; performing hand hygiene (including hand washing with non-antimicrobial soap and water, alcohol-based hand rub, or antiseptic hand wash). Healthcare facilities should ensure the availability of materials for adhering to respiratory hygiene/cough etiquette in waiting areas for patients and visitors, including providing tissues and no-touch receptacles for used tissue disposal and providing conveniently located dispensers

of alcohol-based hand rub. Where sinks are available, ensure that supplies for hand washing (i.e., soap, disposable towels) are consistently provided.

- **Masking and separation of persons with respiratory symptoms** – When there is an increase in community respiratory infection activity (for instance, increased absenteeism in schools and work settings and increased medical office visits by persons complaining of respiratory illness), offer masks to those who are coughing. Depending on your supply levels, either procedure masks or surgical masks may be used to contain respiratory secretions. When space permits, encourage coughing individuals to stay at least three feet away from others in common areas. Of course, this distance may need to be increased, depending on the infection concern (COVID-19, for instance, requires a six-foot distance).
- **Droplet Precautions** – Healthcare personnel should observe Droplet Precautions (i.e., wearing a surgical or procedure mask for close contact), in addition to Standard Precautions, when examining a patient with symptoms of a respiratory infection.

As you can see, many of the basic tenets of infection control are applicable even when facing new occupational hazards. All dental professionals believe in the necessity for good infection prevention protocols. To move ahead successfully, it is important to have a solid knowledge of the basics. With this, the dental practice will successfully navigate through this pandemic, and beyond.



Karen Daw is an award-winning national speaker, author of numerous articles and CE courses on safety in dentistry, and a consultant to private practices and large healthcare organizations across the country. She earned her BA from the Ohio State University and her MBA with concentrations in Healthcare Administration and Business Management. After graduating, Karen was recruited from the Emergency Department to her roles as Assistant Director of Sterilization Monitoring and Health and Safety Director for the OSU College of Dentistry. Her mission is to help practices create and enhance their culture of safety.