

From Policy To Practice

ADS's Guide To The CDC Guidelines

A Step-By-Step Dental Infection Prevention and Control Implementation Workbook

Updated 2025

From Policy to Practice: ADS's Guide to the CDC Guidelines

Your tool for applying CDC dental infection prevention and control guidelines



An education and training resource prepared for dental healthcare personnel by the Association for Dental Safety (ADS)

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This workbook belongs to...

In the practice setting belonging to...

Training under the supervision of...

Date training began:

Date training was completed:



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Quick Start Guide to Using this Workbook

Who is ADS?

The Association for Dental Safety (ADS) is the only membership association solely focused on dental infection prevention and patient safety education and training. ADS offers evidence-based education, an extensive collection of online resources, and collaborates with individuals, agencies, and organizations to assure the safe and infection-free delivery of oral healthcare to all. For more information, visit MyADS.org, email office@MyADS.org, or call (410)-571-0003.



The Centers for Disease Control and Prevention (CDC) is the foremost public health agency in the United States. It reviews current scientific information and based on that information, creates recommendations to protect the health of the population at large. CDC also tracks disease trends across the country and may serve as primary investigator when disease outbreaks threaten public health. Using the information it gathers, the agency develops methods for preventing or limiting the occurrence of all diseases.

CDC recommendations set the standard for the infection control and safety practices used by dental professionals in the US. In 2003, CDC issued its Guidelines for Infection Control in Dental Health-Care Settings-2003. That document outlined specific recommendations for infection control and safety in dentistry and became the resource used by all dental practitioners. In 2022, the CDC Division of Oral Health removed these guidelines in favor of interim guidelines for COVID-19 for all healthcare settings. As of April 2025, it is unknown if and when the 2003 guidelines may be reinstated.

In 2016, CDC revisited the 2003 guidelines and published *Summary of Infection Prevention Practices in Dental Settings: Basic Expectations for Safe Care*, a document that reinforced the existing guidelines, added some new recommendations, and provided checklists to help dental professionals implement and maintain the recommended practices. This summary document is considered current and should be referenced for source information regarding standard precautions in oral healthcare settings.



The Healthcare Infection Control Practices Advisory Committee (HICPAC) is a federal advisory committee chartered to provide advice and guidance to the CDC and the Department of Health and Human Services regarding the practice of infection control. HICPAC has identified "Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings" (2014), which were adopted by the CDC as guidelines for all healthcare settings. These core practices were updated in April 2024 and are intended to provide guidance for infection control across all health care disciplines.

Understanding and incorporating the CDC recommendations outlined in these publications is essential to protecting dental health care personnel and patients.

How is this workbook different from the CDC guidelines?

CDC's infection control guidelines outline what dental health care personnel (DHCP) need to do, not how they can do it. Although this approach leaves plenty of room for professional judgment, it may not always provide all the information that DHCP need to comply with the recommendations.

From Policy to Practice: ADS's Guide to the CDC Guidelines is designed to help you understand and implement the CDC guidelines. Although the CDC guidelines are comprehensive, they describe only what dental professionals should do, not how they should do it. For example, the CDC guidelines might specify that dental instruments be cleaned and then heat sterilized; the ADS guide explains exactly how to clean and sterilize those instruments.

This ADS guide will help you put the CDC guidelines into practice in your own setting. If you have questions while using this guide, talk to the infection control coordinator in your practice setting. If your practice does not have an infection control coordinator, consider appointing a person to that role and providing education and resources to ensure the practice is up to date on all infection control guidelines and regulations. There are also additional resources on the ADS website: www.MyADS.org. Understanding and complying with all current CDC guidelines is essential to providing dental care that is safe for the patients and staff.

Getting the Most from this Workbook

From Policy to Practice: ADS's Guide to the CDC Guidelines is written and organized with simplicity in mind. To best prepare yourself to learn the material in each chapter, follow this step-by-step guide to working through each chapter.

1 At the top right corner of each chapter's title page, you'll see a list of job categories. These identify — at minimum — the DHCP who will need to learn and comply with the information in that chapter.

Patient Care refers to dentists, hygienists, assistants, and any others who directly provide care to patients.

Turnaround refers to staff responsible for instrument reprocessing as well as preparing the operatory before and after patient treatment.

Admin refers to administrative staff such as the receptionist, financial coordinator, and other office staff that do not provide direct patient care.

Manager refers to the employer, the infection control coordinator, and depending on how job responsibilities are defined in your practice setting, possibly the office manager.

2 Down the right side of each chapter title page, there's a column titled "Terms You Should Know." This is very important. The words and phrases in this list will be used throughout the chapter to explain infection control concepts and procedures. Look up each term in the Glossary. When you are familiar with each term, you are ready to begin the chapter.



- **3** To help you understand why you must apply each set of precautions in the dental setting, "Examining the Issues" provides a clear summary of the reasons behind recommended practices. The chapters also contain practical, step-by-step instructions, charts and checklists, pictures and captions, answers to common questions, and guidance in specific situations that require the use of clinical judgment. If you want to know about the science behind the recommendations, you can consult the actual CDC guidelines at stacks.cdc.gov/view/cdc/6743. Detailed information about the infection control Core Practices is available at *www.cdc.gov/infection-control/hcp/core-practices/index.html*
- **4** With ADS's "Exercises in Understanding," you work with your infection control coordinator or trainer to apply what you've learned in each chapter to your own practice setting).
- 5 A self-test at the end of each chapter helps make sure you're ready to move on to the next chapter. For any answers that you miss, reread the section, and take any questions to your infection control coordinator.
- 6 If you need more information, "Recommended Readings and Resources" can point you in the right direction.



Chapter 1

An Introduction to Dental Infection Control

Examining the Issues Healthcare-Associated Infections

While patients are receiving healthcare, they can be infected by germs unrelated to their treatment. Known as healthcare-associated infections, or HAIs, these infections occur in hospitals, medical and dental offices, urgent care centers, dialysis centers, nursing homes and any other setting where healthcare is delivered. HAIs can spread in many ways. For example, some patients are infected from contaminated or improperly used equipment while others are infected from the contaminated hands of a healthcare worker.

When HAIs occur, the cause is often traced to a failure to follow recommended prevention practices. In September 2015, after several alarming media reports of people being notified that they were treated with contaminated medical devices, CDC issued an official health advisory* to address the critical public health need for proper maintenance, cleaning, disinfection or sterilization of medical devices. This CDC health advisory also highlighted the importance of following guidelines to prevent infections in healthcare settings, including the continued education and training of healthcare workers in infection prevention and control. The document was redistributed in October 2015 after minor revision.

Healthcare Workers

Healthcare workers, also called healthcare personnel (HCP), include all people working (paid or unpaid) in health-care settings who may have exposure to patients or infectious materials. Some examples of healthcare workers include dental workers as well as physicians, nurses, aides, therapists, technicians, emergency personnel, pharmacists, and laboratory personnel. It may surprise you that healthcare workers also include students and trainees, volunteers, contractors, and people not directly involved in patient care but might be exposed to infectious agents. When healthcare workers are infected while doing their jobs, it is often referred to as an occupational injection.

Dental Workers are Healthcare Workers

Also called dental health care personnel (DHCP), dental workers include all paid or unpaid people working in dental care settings who might be exposed to infectious materials such as body substances, contaminated medical supplies and equipment, contaminated environmental surfaces, or contaminated water or air. This includes dentists, dental hygienists, dental assistants, students and trainees, dental laboratory technicians, contractors, and volunteers. DHCP also include people who do not participate in direct patient care, but are potentially exposed to infectious agents, such as administrative, clerical, housekeeping, maintenance personnel, and visiting sales representatives.

*CDC/FDA health update about the immediate need for healthcare facilities to review procedures for cleaning, disinfecting, and sterilizing reusable medical devices stacks.cdc.gov/view/cdc/34620



The Bottom Line

As a DHCP, you are an important member of the healthcare team. By learning and following safe practices and infection control techniques, both you and your patients can have the safest dental visit possible.



Admin

Terms You Should Know

Aerosols Bloodborne pathogen Chain of infection Contaminated / Contamination Direct contact Host Healthcare-associated infection Immunity Indirect contact Microorganism Mode of transmission Occupational exposure Pathogen Personal protective equipment Spatter Standard precautions

> For definitions-, see "Glossary

Chapter 1

Diseases and Modes of Transmission in the Dental Setting

A number of diseases can be transmitted via routine dental care. Fortunately, infection control and safety procedures such as handwashing, personal protective equipment, injury prevention techniques, and proper care of items and surfaces greatly reduce the risk to patients and DHCP.

Bloodborne

Hepatitis B Hepatitis C Human immunodeficiency virus (HIV)

Contact

Chickenpox Hepatitis A Herpes

Droplet

Mumps Rubella Influenza COVID-19

Airborne

COVID-19 Chickenpox Measles Tuberculosis

Disease Transmission

Because of the nature of many dental procedures, both you and your patients may come into contact with disease-causing microorganisms (called "pathogens"), in the dental setting. Diseases can be transmitted through:

- O direct contact with microorganisms from an infected person to a host that is not immune, such as blood or saliva, through an exposure incident;
- **O indirect contact** with objects that are contaminated, such as instruments, items, or surfaces;
- O droplet transmission, in which spray or spatter containing microorganisms travels a short distance before settling on mucous membranes; or
- **O** an airborne route, by which evaporated droplets ("aerosols") suspended in the air are inhaled.

For a disease to be transmitted, a number of conditions must be present. This "chain of infection" includes:

- **O** A pathogen in sufficient numbers to cause infection, such as viruses like HIV and hepatitis B or bacteria like Salma
- such as viruses like HIV and hepatitis B or bacteria like *Salmonella*. **O A place for the pathogen to reside and multiply** (a "reservoir"),
- for example, the bloodstream or mucous membranes, a Petri dish, or even a dental unit waterline.
- A way for the pathogen to leave its reservoir and reach a new host (that is, a "mode of transmission"), such as through a cut from a contaminated instrument, contact of mucous membranes with a contaminated hand, or inhaling contaminated aerosols.
- A proper portal of entry into a new host, that is, an appropriate route for the pathogen to enter the body (for example, for a bloodborne pathogen to cause infection, it needs a way to enter the bloodstream, such as through a break in the skin).
- **O** A person who is not immune to the pathogen. Vaccination against a pathogen or prior exposure to it can provide immunity to disease.

Infection control also called **infection prevention** refers to a series of procedures and/or controls (such as personal protective equipment) that removes one or more "links" in this chain. If any one of these conditions is not met, transmission of a particular disease cannot take place.



The 'Chain of Infection'

Infection control attempts to break one or more "links" in the chain of infection.



Principles of Infection Control

Applying the four basic principles of infection control will guide you in keeping yourself and your patients safe.

1. Take action to stay healthy.

Your first obligation to yourself and your patients is to stay healthy. Remember that a susceptible host must be present for infection to occur; if you are not susceptible, you cannot acquire (and therefore can't transmit) a disease. Get vaccinated against hepatitis B and other vaccine preventable diseases.

2. Avoid contact with blood and body fluids.

A number of potentially serious diseases are spread through blood; other diseases are spread through contact with other body fluids. There is no way to know for certain which patients are infected. As such, avoid direct contact with blood, body fluids, non-intact skin, and mucous membranes. Always use standard precautions — handwashing; gloves, eyewear and face protection; controls to prevent injuries — and treat every patient as if infectious (standard precautions).

3. Limit the spread of blood and body fluid contamination.

Blood and other patient materials can be spread in many ways: through spatter created during dental procedures, by touching supplies, and equipment with contaminated hands, or by laying a contaminated instrument on a clean surface. Any item or area that you contaminate becomes a potential source of exposure. By taking care not to spread contamination, you help yourself and others avoid contact with blood and other potentially infectious body fluids.

4. Make objects safe for use.

Even doing your best to control the spread of blood or other body fluids, some instruments, items, equipment, and surfaces become contaminated during patient treatment. Always clean, package, then sterilize instruments before they are used again. Likewise, before seating the next patient, clean then disinfect or cover with a surface barrier any unprotected surfaces that became contaminated.

Principles of Infection Control...In Action

Take action to stay healthy

- Get immunized
- Report occupational injuries and exposures immediately
- Follow the advice of the medical care provider evaluating your occupational exposure

Avoid contacting blood / body fluids

- Wear gloves, protective clothing, and face and eye protection
- Handle sharps with care
- Use safety devices as appropriate
- Use mechanical devices to clean instruments whenever possible

Limit the spread of contamination

- Set up the operatory before starting treatment; unit-dose supplies
- Cover surfaces that will be contaminated
- Minimize splashes and spatter
- Properly dispose of all waste

Make objects safe for use

- Know the different decontamination processes
- Read chemical germicide labels
- Monitor processes to make sure they're working as they should



The nature of many dental procedures puts DHCP in close contact with patients' blood and oral fluids.



Handwashing is an important part of infection control. Washing your hands can help keep you healthy.



Wear personal protective equipment to prevent contact with body fluids.



Set out supplies before treatment so you won't need to touch containers or cabinets with contaminated hands.



Pass sharp instruments with the tips away from all persons to minimize the risk of injury.

A Dental Health Care Personnel's Greatest Risk

Although you may be aware that HIV, the virus that causes acquired immunodeficiency syndrome (AIDS), is a bloodborne disease risk, you may not know that it is not the greatest risk to a DHCP. In fact, the most transmissible bloodborne agent is not HIV, but HBV — the hepatitis B virus.

Infection with hepatitis B virus is a major health problem that can cause lifelong infection, scarring of the liver, liver cancer, liver failure, and death.

HBV is usually transmitted during contact with blood. Healthcare workers, including DHCP, may become infected when exposed to an infected patient's blood, typically through a stick or cut with a sharp instrument, or through spatter contacting their eyes, nose, or mouth. Getting patient blood on cuts and cracks in skin also may cause infection.

As a DHCP, you have an increased risk of contact with blood and body fluids and are more likely to become infected with HBV than most people. Fortunately, a vaccine is available. If you have not been immunized against hepatitis B virus, talk to your infection control coordinator about getting vaccinated today. For more info, see Ch. 2, Elements of a Dental Personnel Health Program

Standard Precautions

Standard precautions represent a standard of care designed to protect HCP and patients from pathogens that can be spread by:

- blood
- all body fluids, secretions, and excretions (except sweat)
- non-intact skin
- mucous membranes

Standard precautions are applied to all patient care, in any healthcare setting, regardless of whether a patient has a suspected or confirmed infection. Standard precautions include—

- Hand hygiene
- Use of personal protective equipment
- Cleaning and disinfecting environmental surfaces
- Safe injection practices and sharps safety
- Sterilization of instruments and devices
- Respiratory hygiene/cough etiquette

Respiratory hygiene/cough etiquette and safe injection practices were added to standard precautions in 2007 and are critical elements of any infection control program. For a list of all CDC dental infection control recommendations, including new items relevant to dentistry since 2003, see Appendix A of this workbook.

Transmission-Based Precautions

For patients with highly infectious diseases, such as tuberculosis, influenza, measles, among others, that are easily spread through skin contact, or through airborne or droplet routes, the risk of spreading infection may require standard precautions to be supplemented with another tier of protection called transmission-based precautions. Although dental offices are not usually equipped for the level of isolation required for using transmission-based precautions, sick patients requiring this level of precaution usually do not come in for routine dental care. However, your infection control program should include a plan to detect and manage potentially infectious patients as soon as they enter your facility. Consider rescheduling non-urgent dental care until such patients are no longer infectious. Alternatively, when urgent dental care is necessary, refer infectious patients that require transmission-based precautions to a facility that can provide treatment using appropriate isolation practices.

Respiratory Hygiene / Cough Etiquette

When patients or visitors arrive sick, they can spread infection to others in the waiting area, restrooms, front desk or other parts of your dental facility. Respiratory Hygiene/Cough Etiquette, an important part of standard precautions, applies to any patient or staff member who shows signs of respiratory illness such as a cough, congestion or runny nose. Your dental practice should have a system to detect and manage potentially infectious people soon after they arrive at your facility.

CDC recommends the following actions for respiratory hygiene/cough etiquette:

- Implementing measures to contain respiratory secretions in patients and accompanying individuals who have signs and symptoms of a respiratory infection, beginning at point of entry to the facility and continuing through the visit
- Posting signs with instructions for:
 - Covering mouth/nose when coughing or sneezing.
 - Using and discarding tissues.
 - Cleaning hands after coming in contact with respiratory secretions.
- Providing tissues and no-touch trash bins.
- Providing resources for hand hygiene in or near waiting areas.
- Offering masks to people with a runny nose, cough or other signs of respiratory illness when they enter your facility.
- Providing space and encouraging people with symptoms of respiratory infections to sit away from others.
- Educating staff on the importance of ways to prevent the spread of respiratory germs from patients with signs and symptoms of a respiratory infection.

The Infection Control Plan

Every dental office should have a written infection control plan and have enough resources available to develop and maintain an infection control program. This includes providing training and supplies to ensure the safety of patients and staff. At least one person among your staff should be trained to serve as the infection control coordinator and maintain the overall coordination, management and assessment of the infection control program.

The Infection Control Plan Should:

- Be developed, written and maintained to align with the type of dental services provided by your facility.
- Include written policies and procedures developed from infection control guidelines, regulations or standards that go beyond Occupational Safety and Health Administration (OSHA) bloodborne pathogens training.
- Be reviewed annually and revised from new recommendations, new safety products, and state and/or federal requirements or regulations.
- Be managed by someone who is trained in infection control and serves as the infection control coordinator.
- Ensure that the correct supplies are available to follow Standard Precautions.
- Describe ways to detect and manage, as soon as possible, potentially infectious persons that come into your facility.



Recommended Readings and Resources

ADS. If Saliva Were Red www.myads.org/if-saliva-were-red

Molinari JA, Harte, JA eds. *Practical Infection Control in Dentistry*, 3rd edition. Philadelphia: Lippincott, Williams & Wilkins, 2010.

Miller CH,. Infection Control and Management of Hazardous Materials for the Dental Team, 7th edition. St. Louis: Elsevier, 2023

Harte JA. Standard and Transmission Based Precautions: *An update for Dentistry. JADA* 141(5):572-581; 2010

Centers for Disease Control and Prevention. *Summary of Infection Prevention Practices in Dental Settings: Basic Expectations for Safe Care. 2016. www.cdc.gov/dental-infection-control/hcp/summary/index.html*

Centers for Disease Control and Prevention. 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings. www.cdc.gov/infectioncontrol/hcp/isolationprecautions/index.html

Centers for Disease Control and Prevention. Management of Multidrug-Resistant Organisms in Healthcare Settings, 2006. www.cdc.gov/infection-control/hcp/ mdro-management/index.html



Common Questions and Answers

How are microorganisms spread in the dental operatory?

Direct transmission can occur via person-to-person contact, via droplets that are produced through sneezing or coughing, or by spatter during dental procedures. Microorganisms also can be spread indirectly or by airborne routes.

What is indirect transmission?

In indirect transmission, microorganisms are first transferred to an object, such as an instrument or surface, and then transferred to another person.

What is airborne transmission?

With airborne transmission, microorganisms from an infected person become suspended in air, where they can be inhaled by others when they breathe. Some microorganisms, such as those that cause chickenpox, measles, or tuberculosis, can be spread by airborne transmission. Bloodborne microorganisms, including those that cause AIDS and hepatitis B, are not transmitted in this way.

What is bloodborne transmission?

Bloodborne transmission is the transfer of bloodborne pathogens contained in body fluids from an infected host to a susceptible person. This can occur through cuts, puncture wounds, or cracks in the skin, or by splashes to the mucous membranes that allow an infected person's blood to enter the new person's bloodstream.



Exercises in Understanding

- 1. On a separate sheet of paper, write down the four principles of infection control and what they mean to you. Compare your answers with those described earlier in this chapter.
- 2. Cite examples of some of the ways you expect to apply each principle in your practice setting. Share your responses with your Infection Control Manager.



Self-Test

1.

Before moving on, test yourself with some questions on the material. (answers appear below)

What events are necessary for infection to occur?

2. While working in a dental office, how can you become infected with a bloodborne pathogen?

3. What disease poses the greatest risk of infection to dental health care personnel?

⁽¹⁾ All of the following: pathogen in sufficient numbers; reservoir in which the pathogen can survive and multiply; mode of transmission; portal of entry in a new, susceptible host. (2) Through cuts, puncture wounds, or cracks in the skin, or by splashes to the mucous membranes that allow an infected person's blood to enter your bloodstream. (3) Hepatitis B.