INFECTION CONTROL
In Practice

ADS Association for Dental Safety
formerly known as OSAP

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QUICK LINKS to this Issue

Infection Control in Practice is a peer-reviewed publication focusing on infection prevention and control basics, strategies, and tools to:

- maintain a safe work environment,
- limit the spread of contamination, and
- promote compliance with infection prevention guidelines in dental facilities.

This will help the Infection Control Coordinator (ICC) communicate the importance of **the safestdentalvisit™**

Bloodborne Disease Updates and Risks

Occupational Safety and Health Administration (OSHA) training on bloodborne pathogens is a core part of every dental worker's knowledge. What we learned as we began our dental careers and what OSHA requires us to review every year guides our routine practices.

It's important to remember that when actions become routine, people sometimes lose sight of the science behind the protocol.

For example, every worker must remain aware of all the ways pathogens are transmitted, not just the most recognized infection pathways.

This issue reviews how bloodborne diseases are transmitted, with the vital consideration of protecting patients while protecting ourselves. This topic also correlates to the global observance of World Blood Donor Day on June 14th every year.

LEARNING OBJECTIVES

After reading this publication the reader should be able to prevent transmission of bloodborne pathogens by understanding:

1. how bloodborne diseases are transmitted.
2. the types of hepatitis, modes of transmission and appropriate precautions.
3. the risks associated with non-intact skin in dental settings.
4. safety breaches, infection risks, and correct dental practices.
5. the potential consequences of non-compliance and the impact on a culture of safety.

Infection Control In Practice Team Huddle™ is a resource prepared for clinicians by the Association for Dental Safety (ADS) with the assistance and expertise of its members. ADS is a nonprofit, independent organization providing information and education on infection control and prevention and patient and provider safety to dental care settings worldwide. ICIP Team Huddle™ is published six times per year and is a trademark belonging to ADS. ADS assumes no liability for actions taken based on information herein.

SCENARIO-BASED LEARNING

When a new Infection Control Coordinator (ICC) observes a coworker with hand dermatitis and a possibly infectious bloodborne disease handling sterilized instruments bare-handed, it reveals a weak link in the person's training and understanding of infection transmission pathways.

The scenario illustrates the need for Standard Precautions to protect both patients and workers. An analysis of hepatitis transmission and prevention serves as an example of bloodborne disease risks and management strategies.

Workplace Scenario: The Situation

Dr. Abe personally trained several dental assistants (DA). The safety training primarily consisted of reviewing the OSHA compliance manual and the Bloodborne Pathogen Standard, followed by an office tour and discussion of safety policies.

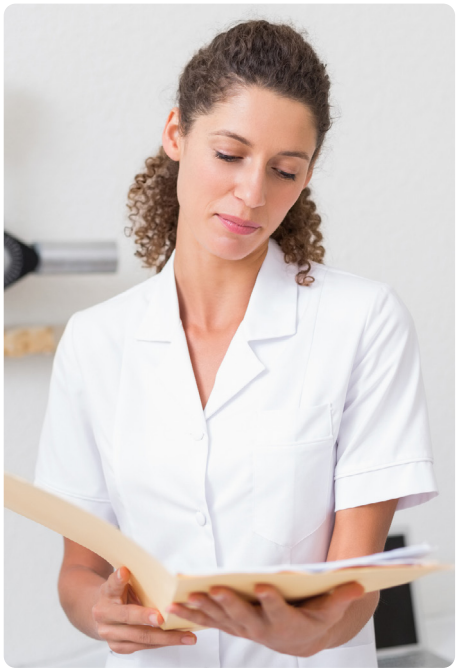
As his practice grew, Dr. Abe sought an infection control coordinator to take over safety compliance and training. He hired Lola, a licensed Registered Dental Assistant (RDA) who was certified in dental infection prevention and control (CDIPC).

Lola reviewed the dental office's written safety program and records, which consisted of an OSHA compliance manual with sterilization and waterline monitoring logs. Dr. Abe and Lola shared a commitment to prioritizing safety as a defining value of the office.

Dr. Abe gave Lola a quick orientation on her first day and asked her to shadow another assistant, Pete.

Lola noticed that the skin on Pete's hands was red and peeling and there were some open cracks. He explained that he was allergic to most gloves and soaps, so he used gentle hair conditioner to wash his hands and only wore gloves when OSHA required it. He avoided hand sanitizers because they burned his skin.

Pete also shared that he was extra careful about his health because he had hepatitis. Lola silently wondered if his skin and hepatitis conditions were contagious and if there were work restrictions for people with those conditions. She knew some forms of hepatitis were non-infectious.



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Workplace Scenario: The Situation (cont'd)

As Lola observed Pete set up a treatment operatory for a patient, she witnessed him unwrap sterilized instruments and place them on the treatment tray with his bare hands. When she asked why he didn't wear gloves or use aseptic technique to avoid touching the instruments, Pete said neither was required because the instruments were not contaminated.

Lola realized that Pete did not understand how his actions might expose the patient to infection or cross-contamination. Dr. Abe had trained Pete to follow the OSHA Universal Precautions for worker protection, and Pete did what he thought was correct to protect himself.

Lola was trained to follow the Centers for Disease Control and Prevention (CDC) Standard Precautions, and Transmission-Based Precautions that expand on OSHA's rules to protect patients and workers equally from bloodborne and non-bloodborne pathogens. This training taught her that Pete's hands might contaminate the sterilized instruments, and germs might come from Pete's body or be transferred from other sources onto his hands.

At the end of Lola's first day, she told Dr. Abe that she loved the office and looked forward to her role as the ICC. However, she shared concerns about some infection prevention and control and practices. Lola told him about seeing Pete handle sterile instruments with his bare hands that displayed open and damaged skin. She observed that Pete seemed unaware that his compromised skin might be a source of infection transmission to others.

Dr. Abe thanked her and agreed that the past training focused primarily on worker safety and that he assumed that complying with OSHA regulations would equally protect patients. He had not noticed Pete's hand dermatitis recently because Pete wore gloves while assisting.

Workplace Scenario: The Situation Assessment

1. Pete learned OSHA Universal Precautions from his on-the-job training from the perspective of his own protection from bloodborne diseases, but he did not learn enough about how to protect patients.[1,2]
2. Safety training needed to include Standard Precautions and Transmission-Based Precautions that address organisms spread by blood and body fluids, secretions, and excretions, whether they contain blood or not.[1,2]
3. Pete did not understand that mucous membranes and non-intact skin can allow pathogens to escape from a person.[1,2]
4. Pete also did not understand that touching sterilized instruments with nonintact or broken skin might pose a risk to patients.[1,2]
5. Some health conditions require work restrictions. If required, these restrictions should be followed.[3,4]
6. Pete's hepatitis and skin conditions should be evaluated by medical specialists who can advise on best practices to protect Pete and other people in dental environments.[3,4]
7. The office's safety practices and training needed updating to include equal emphasis on patient and provider safety.

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Workplace Scenario: The Action Plan

Dr. Abe and Lola recognized the need to update the dental team on current guidance for worker and patient safety. The following actions were taken to remedy the situation.

Gather guidance resources:

Dr. Abe asked Lola to bring in the safety guidance references from her CDIPC certification program. At the same time, he researched the standards for infection control from the State Dental Board to add to their written safety program.

Remedy immediate risks:

Dr. Abe met with Pete privately and explained how non-intact skin could transmit pathogens in and out of a person as well as cause cross-contamination if the skin was not sufficiently cleaned and protected by gloves. Pete made medical appointments to assess and treat his health conditions. Dr. Abe assured him that the office would accommodate his need for alternative glove materials or hand hygiene products appropriate for healthcare, and asked Pete to wear gloves when touching patients and all patient care items or surfaces, including decontaminated surfaces and sterilized items, until his hand dermatitis resolved.[1,2,3,4,5]

Train the dental team:

Dr. Abe explained to the dental team that Lola was their new infection control coordinator and asked the team to respect her guidance and work with her. He encouraged a dialogue between Lola and the team and emphasized that their goal was to enhance their culture of safety.

PREPARING FOR A TRAINING SESSION

Lola set up a training session with the dental team and began by reviewing how bloodborne and other diseases are transmitted. She explained Standard Precautions, discussing the importance of always considering patient safety as well as employee safety. ***Lola referenced:***

Textbooks and a Workbook:

- **Infection Control Textbook**. *Cottone's Practical Infection Control In Dentistry*. Molinari, JA; Harte, JA., 3rd ed, 2010. Lippincott Williams and Wilkins, ISBN 978-0-7817-6532-9
- **Infection Control Textbook**. *Infection Control and Management of Hazardous Materials for the Dental Team*. Miller, CH., 7th ed, 2023. Elsevier, St. Louis. ISBN: 978-0-323-76404-9
- **Workbook**: *OSHA & CDC Guidelines: OSAP Interact Training System*. Organization for Safety, Asepsis and Prevention. 7th ed. Updated 2022. ISBN: 978-0-9752519-5-9

Regulations / Guidelines:

- **U.S. Department of Labor**. Occupational Safety and Health Administration. 1910.1030 – Bloodborne Pathogens. **osha.gov/laws-regs/regulations/standardnumber/1910/1910.1030/**
- **Centers for Disease Control and Prevention**. *Summary of Infection Prevention Practices in Dental Settings: Basic Expectations for Safe Care*. Centers for Disease Control and Prevention, U.S. Dept of Health and Human Services; October 2016. **cdc.gov/dental-infection-control/hcp/summary/index.html#**
- **The State Board Infection Control Regulations**: accessed at State Board websites.

Apply the Lessons from the Workplace Scenario to Your Practice by Following the Strategies Below.

If any team member lacks understanding of key infection control concepts or information, others may be put at risk. All team members should be welcome to ask questions and share concerns and information. In a dental culture of safety, the dental team shares knowledge and values that protect the patients and the workers equally.

Understand How Bloodborne Diseases are Transmitted [1,2,3,6,7,8,9,10,11]

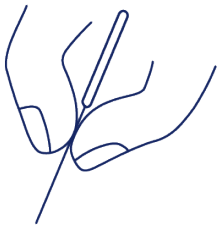
Blood and other body fluids, including saliva, can transmit bloodborne pathogens such as hepatitis B virus (HBV) or human immunodeficiency virus (HIV). Bloodborne diseases can be transmitted by blood and body fluids, even when they dry. HBV in dried blood can remain viable on surfaces for at least seven days.[8,10,11]

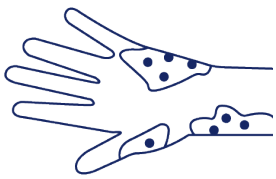
Bloodborne Diseases: Routes of Entry into the Body

Parenteral: penetration through skin such as:

A. Cut or injury (poke, needle stick, scratch) with contaminated object.

B. Existing non-intact or open skin (cracked skin, dermatitis, infected skin) allows entry of pathogens.



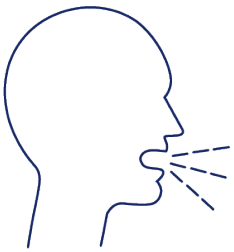


Mucosal: absorption – through mucosal tissue such as:

A. Contact with nose, mouth, respiratory or gastrointestinal tract tissue.

B. Contact with ocular tissue.

C. Sexual contact.



Congenital or perinatal transmission

(mother to child) during pregnancy, birth, or breastfeeding.

Transfusions

with untested blood in rare and remote situations.

Know the Difference Between Universal, Standard and Transmission-Based Precautions.... and Where You Can Find Them

OSHA

Universal Precautions

- Created by **OSHA** to protect workers from
  - bloodborne diseases.
- Minimum safety precautions to prevent healthcare workers from exposure to blood and fluids containing blood.

Source: **U.S. Department of Labor.** *Occupational Safety and Health Administration.1910.1030 – Bloodborne pathogens.*

CDC

Standard Precautions

- Created by CDC to protect workers and patients from
  - bloodborne,
  - contact,
  - and droplet diseases.
- Minimum safety precautions to prevent workers and patients from exposure to bloodborne and non-bloodborne pathogens, including contact and droplet diseases.

Source: **Centers for Disease Control and Prevention.** *Summary of Infection Prevention Practices in Dental Settings: Basic Expectations for Safe Care.* Centers for Disease Control and Prevention, U.S. Dept of Health and Human Services; October 2016.

Note: At least 27 states have adopted the CDC recommendations for patient protection as part of their State Dental Board regulations.

CDC

Transmission-based Precautions

- Created by CDC to protect workers and patients from
  - bloodborne,
  - contact,
  - droplet,
  - and airborne diseases.
- Additional precautions beyond Standard Precautions, to prevent transmission of known or suspected highly infectious pathogens, based on the mode of transmission.

Source: **Centers for Disease Control and Prevention.** *Summary of Infection Prevention Practices in Dental Settings: Basic Expectations for Safe Care.* Centers for Disease Control and Prevention, U.S. Dept of Health and Human Services; October 2016.

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Hepatitis: An Example of an Infectious Bloodborne Disease

Hepatitis is inflammation of the liver. Some types of hepatitis are non-infectious, and all types of hepatitis can be asymptomatic. Many types of hepatitis are caused by viral infections.

If hepatitis becomes chronic it can lead to cirrhosis, or scarring, and/or the accumulation of fat in the liver, leading to failure of liver function. Some hepatitis can progress to liver cancer.

The mode of transmission for various types of viral hepatitis can be: parenteral (taken into the body other than through the digestive tract, as by intravenous or intramuscular injection, or needlestick), mucosal absorption, ingestion, perinatal, or intimate contact.

Hepatitis B virus and Hepatitis C virus are common examples of infectious bloodborne diseases that pose a risk in dental settings.

Dental workers should be tested for HCV at least once, and pregnant workers should be tested for HBV and HCV with every pregnancy.

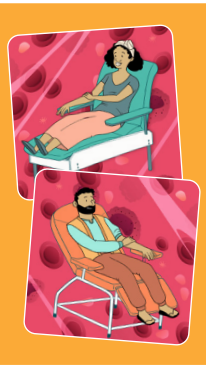
Training in bloodborne disease characteristics, transmission and prevention strategies is required for dental workers.

Vaccines are available to prevent HBV and Hepatitis A virus (HAV).[8,10,11,12]

Standard Precautions are recommended to prevent all types of hepatitis transmission in dental settings.

Hepatitis: Types, Mode of Transmission, Dental Work Precautions [8,10,11,12]

Type of Hepatitis	Mode of Transmission	Dental Work Precautions
Hepatitis A virus	Ingestion (fecal-oral), intimate contact	Standard Precautions, Vaccine
Hepatitis B virus	Parenteral, mucosal absorption, perinatal	Standard Precautions, Vaccine
Hepatitis C virus	Parenteral, mucosal absorption, perinatal, intimate contact	Standard Precautions
Hepatitis D virus, (HDV) co-infection with HBV	Parenteral, mucosal absorption	Standard Precautions
Hepatitis E virus (HEV)	Ingestion (fecal-oral)	Standard Precautions
Hepatitis G virus (HGV)	Transfusions, unknown	Standard Precautions
Alcoholic	Alcohol consumption, non-infectious	Standard Precautions
Metabolic dysfunction-associated steatotic liver disease (MASLD), also known as nonalcoholic fatty liver disease (NAFLD)	Metabolic dysfunction Non-infectious	Standard Precautions



World Blood Donor Day is June 14th

World Blood Donor Day is **June 14th**, the birthday of Karl Landsteiner who discovered the ABO blood group system. World Blood Donor Day is an international event to raise awareness of the need for safe blood and blood products, and to thank volunteers who donate blood to save others. Every healthcare system relies on these donations and blood transfusions to save lives. Having sufficient quantities of safe blood is a key component of effective healthcare. For more information, visit the World Health Organization webpage dedicated to **World Blood Donor Day**.

Recognize the Risks of Compromised Skin in Dental Settings[4,5,6,7]

Non-intact skin can allow the transmission of bloodborne and other diseases, including fungal, viral or bacterial infections through the skin into or out of the body. Examples include:

– Bloodborne diseases – Fungal infections, such as "Ringworm"
– Herpes simplex infections – Human papillomavirus (HPV)
– Bacterial infections, such as staphylococcus including methicillin-resistant Staphylococcus aureus (MRSA)

Damaged, compromised skin is difficult to clean due to sensitivity and altered skin morphology (physical form) and flora (microbes).

Inadequate removal of transient skin pathogens can allow organisms to colonize the skin and become permanent skin flora.

Transient skin flora can be removed with hand hygiene but permanent flora resides deeper in the skin and cannot be removed with hand hygiene. Skin flora can infect the person and be transmitted to others.

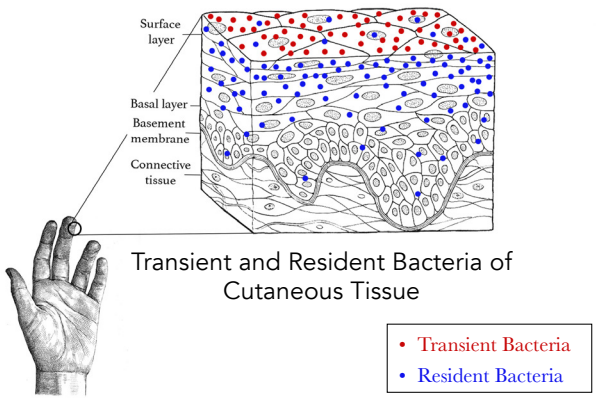


Image source: Kathryn Andrews, Used with permission

Guidance on Hands with Compromised Skin

Prevent skin damage and preserve skin health

The employer is responsible for providing gloves and hand hygiene supplies that employees need, including alternative supplies if workers are allergic to required items.

- Use soaps, antimicrobial hand rubs, lotions and gloves that are safe, effective, and designed for healthcare.
- Plain, gentle soap with emollients to protect skin are generally recommended for non-surgical hand hygiene. The emollients must be compatible with, and not compromise gloves.[3,5,6,7]

Non-intact skin is a recognized risk for transmission of pathogens[5]

CDC provided guidance for health care workers (HCW) with compromised skin in 1991:

- "HCWs who have exudative lesions or weeping dermatitis should refrain from all direct patient care and from handling patient-care equipment and devices used in performing invasive procedures until the condition resolves."[4]

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Guidance on Hands with Compromised Skin (cont'd)

Some State Dental Board regulations reflect the CDC guidance for workers with hand skin conditions to protect patients. Two examples of State Board rules are:

- **Tennessee Board of Dentistry:**

  "All dental health care workers who have exudative lesions or weeping dermatitis shall refrain from contact with equipment, devices, and appliances that may be used for or during patient care, where such contact holds potential for blood or body fluid contamination, and shall refrain from all patient care and contact until condition(s) resolves unless barrier techniques would prevent patient contact with the dental health care worker's blood or body fluid."[13]

- **Dental Board of California:**

  "All dental healthcare personnel (DHCP) who have exudative lesions or weeping dermatitis of the hand shall refrain from all direct patient care and from handling patient care equipment until the condition resolves."[14]

The 2012 Updated CDC Guidelines recommend following Standard Precautions.

The 2012 Updated CDC Guidelines recommend following Standard Precautions to protect both HCW and patients from bloodborne exposure to bloodborne pathogens when the HCW is known to be infectious.[12]

Health care provider-to-patient transmission of HBV when the HCW is infectious:

"Since publication of the 1991 CDC recommendations, CDC has accrued substantial information about HBV-infected health-care providers and students. Many interventions, including the adoption of Standard Precautions (formerly known as universal precautions) and double-gloving during invasive surgical procedures, have eliminated almost completely the very low risk for transmission of HBV (as well as hepatitis C virus and human immunodeficiency virus) during exposure prone procedures."[12]

Safety Breaches, Infection Risks, and Correct Dental Protocol

Personal exposure to pathogens is not only caused by needlesticks. Below are examples of routes of transmission through the skin or mucosal tissue that may occur in dental settings.

When Safety is Breached:
What is the Risk of Infection and Correct Dental Protocol?[1,2,3,6,7,8,9]

Breach in Safety	Infection Risk	Correct Protocol
Percutaneous exposure: skin injuries with contaminated sharp items. Example: needlestick.	Exposure to infectious pathogens through injured skin.	Prevent personal exposure with safety training and compliance, use of engineering controls and Personal Protective Equipment (PPE) and safe practices.
Percutaneous exposure: microscopic, small, or undetected breaks in skin. Example: skin crack or hangnail.	Skin openings can allow the escape of pathogens to others and entrance of pathogens, toxins, allergens and other potentially infectious materials (OPIM) into the body.	Use gloves when handling patients or patient care items or surfaces.
Percutaneous exposure: skin conditions on hands. Examples: dermatitis or eczema with compromised or damaged skin.	Compromised skin is a portal of entry and exit for bloodborne and non-bloodborne pathogens. The skin condition may be infectious and transmissible to others. Altered, damaged skin is difficult to clean; hand hygiene procedures may fail, and retained pathogens can penetrate the skin and/or be transferred to items, surfaces or people.	Recognize compromised skin as an infection transmission risk. Wear gloves for personal protection and to prevent contamination of patients and patient care items and surfaces. Follow State Board work restrictions until the condition is resolved. Follow medical advice for eliminating allergens and irritants that cause or worsen the condition.
Permucosal exposure, including ocular tissue. Examples: splash, spray or touching of intact tissue of the eye, mouth or nose, injury of mucosal tissue.	Intact and non-intact mucosal tissue may absorb pathogens through direct or indirect contact. Mucosal tissue is fragile and easily injured.	Wear PPE and use safe practices to protect eyes and other mucosal tissue. Gloves should be worn when treating patients, for pre-treatment contact with patient care items and surfaces, and for post treatment contact with potentially contaminated items and surfaces.

Links to References

1. Molinari, JA., Harte, JA., The Concept and Application of Standard Precautions. In *Cottone's Practical Infection Control In Dentistry* 3rd ed, 2010. Lippincott Williams and Wilkins, ISBN 978-0-7817-6532-9
2. Miller, CH., Ch. 14, Appendix D, H. In *Infection Control and Management of Hazardous Materials for the Dental Team*. 7th ed, 2023. Elsevier, St. Louis. ISBN: 978-0-323-76404-9
3. U.S. Department of Labor. Occupational Safety and Health Administration. 1910.1030 – Bloodborne pathogens. **osha.gov/laws-regs/regulations/standardnumber/1910/1910.1030/** Accessed 4-28-2025
4. CDC. Recommendations for Preventing Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Patients During Exposure-Prone Invasive Procedures MMWR July 12, 1991 /40(RR08);1-9 **cdc.gov/mmwr/preview/mmwrhtml/00014845.htm** Accessed 4-28-2025
5. Centers for Disease Control and Prevention. Guideline for Hand Hygiene in Health-Care Settings: Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. MMWR 2002;51(No. RR16):[inclusive page numbers]. **cdc.gov/mmwr/PDF/rr/rr5116.pdf** Accessed 4-28-25
6. Molinari, JA., Harte, JA., Antisepsis and Hand Hygiene. In *Cottone's Practical Infection Control In Dentistry* 3rd ed, 2010. Lippincott Williams and Wilkins, ISBN 978-0-7817-6532-9
7. Miller, CH., Ch. 11. In *Infection Control and Management of Hazardous Materials for the Dental Team*. 7th ed, 2023. Elsevier, St. Louis. ISBN: 978-0-323-76404-9
8. CDC. Guidelines for infection control in dental health-care settings – 2003. MMWR 2003; 52(No. RR-17):1–66. Available at: **Guidelines for infection control in dental health-care settings--2003 - PubMed** Accessed 4-28-2025
9. *OSHA & CDC Guidelines: OSAP Interact Training System*. Organization for Safety, Asepsis and Prevention. 7th Ed. Updated 2022. ISBN: 978-0-9752519-5-9
10. Molinari, JA., Harte, JA., Viral Hepatitis and Hepatitis Vaccines. In *Cottone's Practical Infection Control In Dentistry* 3rd ed, 2010. Lippincott Williams and Wilkins, ISBN 978-0-7817-6532-9
11. Miller, CH., Ch. 6. In *Infection Control and Management of Hazardous Materials for the Dental Team*. 7th ed, 2023. Elsevier, St. Louis. ISBN: 978-0-323-76404-9
12. CDC. Updated CDC recommendations for the management of hepatitis B virus-infected health-care providers and students. MMWR. Morbidity and mortality weekly report. Recommendations and reports; v. 61, no. RR-3. July 6, 2012 **Updated CDC Recommendations for the Management of Hepatitis B Virus–Infected Health-Care Providers and Students** Accessed 4-28-2025
13. Rules of The Tennessee Board of Dentistry Chapter 0460-01 GENERAL RULES 0460-01-.11. (16) Infection Control. **publications.tnsosfiles.com/rules/0460/0460-01.20220307.pdf** Accessed 4-28-2025
14. California Code of Regulations, Title 16. Professional and Vocational Regulations Division 10. Dental Board of California, 16 CCR § (7) Minimum Standards for Infection Control. **View Document–California Code of Regulations** Accessed 4-28-2025

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Glossary of Terms

Aseptic technique: Safe methods that prevent or reduce the spread of microorganisms from one site to another.

Dermatitis: Skin inflammation that causes swelling and irritation. It can manifest as itchy, dry skin or a rash, and may also lead to blisters, oozing, crusting, or flaking.

Exudative lesions: Superficial lesions or areas of inflammation that contain material composed of serum, fibrin (clotting protein), and white blood cells that escape from blood vessels. This material can be clear or cloudy, white or yellow, not bloody.

Morphology: The form or structure of living organisms.

Mucous membranes: (Mucosa) a layer of tissue that lines the respiratory system, digestive system, and reproductive system. Mucosa secretes mucus to protect the body from foreign materials and microorganisms. The tissue is more fragile than outer skin and is permeable.

Standard Precautions: A set of practices and procedures that expand on Universal Precautions to protect workers and patients from blood and all other body fluids (except sweat), whether the fluids contain blood or not.

Transmission-based Precautions: A set of practices that apply to patients with documented or suspected infection or colonization with highly transmissible or high-risk pathogens, requiring additional precautions beyond Standard Precautions.

Universal Precautions: A set of practices and procedures based on the concept that all blood and all body fluids that might be contaminated with blood should be treated as infectious.

Work restrictions: Limitations on the duties a healthcare worker may perform due to work-related injury or illness, regulated by OSHA and enforced by the employer.

KEY TAKEAWAYS

1. OSHA Universal Precautions focus on worker protection from exposure to bloodborne infectious pathogens. It is important to understand all the routes of transmission for bloodborne pathogens.
2. Staff training needs to include education on Standard Precautions that protect both workers and patients.
3. State Board, CDC and professional ethical standards focus on patient protection from exposure to bloodborne and non-bloodborne pathogens.
4. Sharps injuries are not the only way bloodborne diseases are transmitted.
5. Compromised or non-intact skin can allow pathogens to pass into and out of the skin.

TEAM HUDDLE DISCUSSION GUIDE

1. Besides a needlestick, what other ways might one become infected with a bloodborne pathogen?
2. Are all types of hepatitis infectious?
3. What are the risks associated with working in dentistry with exposed compromised skin?
4. Have you observed or experienced a safety breach that creates a risk for exposure to a bloodborne disease?
5. What are the potential consequences of not understanding the multiple routes of bloodborne disease?
6. How can you improve your dental practice's culture of safety?

Take the Silent Video Challenge!

The Scenario: Sharps Safety

In this video scenario, what actions reveal a breach in safe practices during this dental procedure?

Watch the video and compare your knowledge to the lesson below.

https://youtu.be/mjpjBMRsiXM

The Lesson: The previously used dental anesthetic syringe, located next to the instrument tray, displays an uncapped, bent needle adjacent to the tray of hand instruments being used by the clinician. There is a high risk of a needlestick given the position of the bent needle next to the tray, which also blends in with the silver color of the tray full of instruments. The cap to the needle is lying on top of the instruments in the tray, indicating the omission of the safe practice of capping the needle after the dental anesthetic injection. This situation highlights the need for constant attention to detail to ensure safe dental procedures.

What's Wrong With This Picture?

Can you identify the potential risk to safety and infection prevention during the dental clinician's use of this tray setup for a dental procedure?

Answer:

The angled placement of the instruments on the tray increases the risk of instruments being knocked into, caught on gloved hands, or knocked over during patient care or tray transport, potentially causing sharps injury to clinicians or patients. To minimize the potential for accidents with sharp instruments, do not place sharp instruments in unstable positions on instrument trays.

FROM THE Editor's Desk: Emerging Antiviral Research

Viral infections are a constant and ever-changing global challenge, ranging from SARS-CoV-2 and viral influenza with pandemic potential to endemic viruses like influenza and herpes simplex virus (HSV).

Herpes simplex virus-1 (HSV-1) is spread primarily through oral contact; direct contact with the fluid from the vesicles on infected skin or mucosa.

HSV-1 infects over two-thirds of the global population and is the leading cause of infectious blindness in Western countries.

For oral health professionals, this issue is especially relevant: many viruses, including HSV-1 are spread most efficiently through infected saliva.

The following presents the results of new antiviral research testing a unique chewing gum.

Penn Dental Medicine
University of Pennsylvania

A Recent Study by the University of Pennsylvania's School of Dental Medicine (and Published in Molecular Therapy) introduces a groundbreaking approach: a chewing gum made from *Lablab purpureus* beans, which naturally contain a broad-spectrum antiviral protein (FRIL), to neutralize viruses directly in the oral cavity. In lab tests, this gum reduced the levels of HSV-1, HSV-2, and influenza A strains (H1N1, H3N2) **by over 95%**.

This research builds on the authors' earlier research on viral neutralization of SARS-CoV-2 (COVID-19) in saliva samples by more than 95%, and is in clinical trials.

This new and promising intervention is particularly timely given low flu vaccination rates, new mutating strains of SARS-CoV-2, and the lack of an HSV vaccine.

This product meets Food & Drug Administration (FDA) clinical drug standards and was found to be safe for use, opening the door to human trials. By directly targeting viral activity in the oral cavity this approach may help reduce transmission among patients and practitioners alike.

The research team is also exploring the gum's potential to help control bird flu by using *Lablab purpureus* bean powder in animal feed. This **bean powder was previously shown** by others to effectively neutralize H5N1 and H7N9—two strains of influenza A, known to cause bird flu in humans as well as in birds.

These interesting findings highlight the potential for new, practical strategies to protect the public and dental teams from infectious diseases.

Henry Daniell is the W.D. Miller Professor in the Department of Basic & Translational Sciences at the School of Dental Medicine at the University of Pennsylvania.

Research performed in the Daniell lab is supported by NIH grant R01 HL 107904.

Other authors include Gary H. Cohen, Yuwei Guo, Uddhab Karki, Rachel J. Kulchar, Rahul Singh, and Geetanjali Wakade of Penn Dental Medicine, Hamid Khazaei of the Natural Resources Institute Finland (Luke) and the University of Finland and Juha-Matti Pihlava of the University of Finland.

Reference: Stull, Deborah, An antiviral chewing gum to reduce influenza and herpes simplex virus transmission. Penn / today, March 19, 2025 **penntoday.upenn.edu/news/penn-dental-antiviral-chewing-gum-reduce-influenza-and-herpes-simplex-virus-transmission** Accessed 4-28-2025

Educational Spotlight

Did you miss the 2025 ADS Annual Conference?

There is still time to take advantage of the outstanding education presented at the ADS Annual Conference in Orlando! Catch the educational replay by **accessing the recordings from Monday, June 16 – Friday, August 15, 2025**.

Be sure to **register for on-demand access by Friday, August 1**, and then view the replays according to your schedule.

- Discover insightful solutions to challenges impacting your organization.
- Hear from a broad range of speakers on existing practices and emerging trends.
- Keep current on evidence-based information concerning dental safety.
- Invigorate your professional development and fulfill Continuing Education (CE) licensure requirements.

Click HERE to view on-demand registration

Click HERE to explore the Conference website

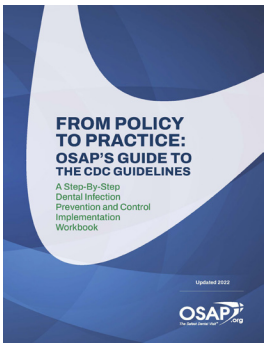
Questions about the ADS On-Demand Annual Conference?

Email: office@MyADS.org Phone: +1 (410) 571-0003 | US & Canada: +1 (800) 298-6727

Do You Have These Essential Workbooks and Textbook?

The ADS Store offers three essential publications to help you fulfill your educational requirements and assure the safety of dental patients and practitioners. The workbooks and textbook can be purchased **HERE**.

From Policy to Practice: OSAP's Guide to the CDC Guidelines (2022 Edition)

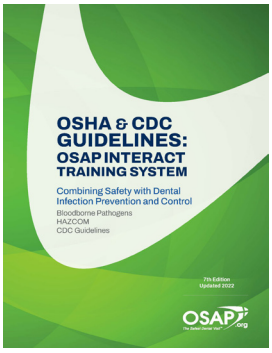


Although the CDC guidelines are comprehensive, they describe only what dental healthcare personnel should do, not how they should do it. This workbook will help you put the CDC guidelines into practice.

10 hours of continuing education (CE) credit; eligible upon successful completion of online assessment.

Click HERE to learn more about the workbook.

OSHA & CDC Guidelines: OSAP Interact Training System 7th Edition-Released November 2022

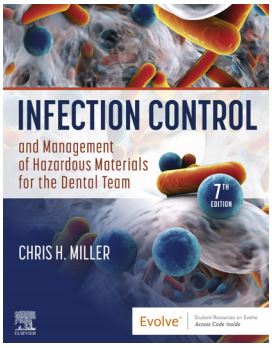


This workbook helps DHCP understand the dental infection prevention and control health and safety considerations established by government guidelines and regulations. NOTE: each employee participating in the training should have their own workbook.

10 hours of CE credit; eligible upon successful completion of online assessment.

Click HERE to learn more about the workbook.

Infection Control & Management of Hazardous Materials for the Dental Team, 7th Edition



This highly practical textbook features up-to-date regulatory recommendations, as well as coverage of patient safety preparation and alerts to infection control breaches. Step-by-step instructions make it easy to perform safety procedures and be equipped to prevent the spread of infectious disease. Real-world case scenarios offer opportunities for critical thinking and application.

CE is not available for this textbook. Learn more about the 7th edition **HERE**.

NEWS! Ask ADS Makes Its Debut!

The Association for Dental Safety (ADS) is excited to unveil Ask ADS, a pioneering Artificial Intelligence (AI) powered assistant that delivers immediate, trustworthy answers on dental infection prevention and patient safety.

Specifically designed for oral health professionals:
Ask ADS is built on robust, evidence-based resources.

For a limited time, this invaluable tool is available for free to everyone in the oral healthcare community, but soon it will be exclusive to ADS members.

Don't miss out!
ADS invites all dental professionals to try-out this innovative tool!

Click HERE to visit the Ask ADS webpage to learn how!

"Ask ADS is a game-changer for dental professionals seeking quick, reliable information. We're leveraging the latest AI technology and the highest-quality evidence-based content to ensure users get immediate, reliable answers—whenever they need them in whichever language they prefer."

***Michelle Lee**, CPC, Executive Director at ADS*

If you are a First-time Ask ADS User, **Click HERE** to complete the Registration Form

To view the Ask ADS press release **Click HERE**

Questions?
Email: office@MyADS.org **Phone:** +1 (410) 571-0003 **US & Canada:** +1 (800) 298-6727

LOOKING AHEAD

Registration is Open!

ADS 2025 On-Demand Annual Conference registration is open through August 1.
Access to on-demand recordings available from **June 16 – August 15.**

Online Education

2025 Antibiotic Stewardship Summit
Available now. Free upon registration

ADS 2025 Monthly Webinar Series
12 topics: Free upon registration

ADS-APIC 2025 Webinar Series
4 topics: Free upon registration

2025 Dental Infection Control Awareness Month (DICAM). Resources available in September.

2025 Joint Dental Webinar Series – *It's back by popular demand!*

ADS and the **Association for Professionals in Infection Control and Epidemiology** are once again partnering on a webinar series in 2025 focusing on infection prevention and control in the dental setting.
The webinars are available as a bundle and are **FREE** to everyone. On-demand access is available after webinar dates. **Learn More**

Date & Time	Webinar Topic	Speaker
Previous live webinar now on-demand in webinar bundle.	Back to Basics: Dental Unit Waterlines 101	Amanda Hill, BSDH, RDH, CDIPC
Previous live webinar now on-demand in webinar bundle.	Biofilms Inside and Out (of You)	Nancy Dewhirst, BSDH, RDH
August 20, 2025 1:00 PM ET	C-Qual Site Visits: Internal Site Visits to Improve Process and Practice	Lisa Bozzetti, DDS, and Sarah Deines, PharmD, BCACP, CPHQ
October 15, 2025 1:00 PM ET	Opening a New Hospital Dental Suite: What Your IP Wants You to Know	Margaret Gilman, MAS, CIC, FAPIC

New ADS Global Membership Option!

The Association for Dental Safety has announced a new membership option designed to extend its resources and benefits to individuals and universities outside the United States and Canada.

Access the official press release **HERE.**

Read more about the new ADS global membership category **HERE**.

Discover all the member benefits **HERE**.

Join ADS for Our Popular Webinar Series

Each live webinar in this timely series is worth one (1) CE credit. The 2025 ADS webinar series covers a wide range of topics that will help you fulfill educational requirements and elevate the safety of patients and dental healthcare personnel.

Registration is Free!
To view the webinar description and speaker bios for any webinar in this series, visit the **ADS Event Calendar**. After completing and submitting the registration form on each webinar page, you will receive an email confirmation and calendar link to the webinar.

Catch up on any webinars you missed **here.**

Date	Title	Speaker(s)
Now on-demand: click HERE	**The Forgotten Member of the Dental Team – The Dental Lab**	Mary A. Bartlett; Gary Morgan, CDT, CQA/ASQ; and Kellie Thimmes, BS, DISIPC
Now on-demand: click HERE	**Understanding Sterilization Pouches Across Sterilizer Modalities**	Delores O'Connell, LPN, BA, ASQ, CRCST, CHL, FAS, AGTS
Now on-demand: click HERE	**Infection Control Champions: Helpful Tips for Dental Assistants**	Sherrie Busby, EDDA, CDSO, CDIPC; Tonya Hanna, EDDA; and Kellie Thimmes, BS, DISIPC
Now on-demand: click HERE	**DENTAL PRACTICE: Aren't We Safe Enough!**	Steve Geiermann, DDS, FACD, FICD
Now on-demand: click HERE	**Preventing Legacy Errors: Choosing the Right Equipment to Ensure Proper Infection Control Practices**	Michelle Strange, MSDH, RDH, CDIPC
Now on-demand: click HERE	**UVC Technologies for Dentistry: Basics of Air and Surface Disinfection**	Hillary Hei, MPH, CIC, LSSGB, FAPIC, and Mairead Smith, BS
June 25	**Leadership in Infection Control: Empowering Your Team for a Safer Visit**	Sarah Stream, MPH, CDIPC, CDA, FADAA
July 9	**Why Can't We All Get on the Same Page!**	Deanna Otts-Whitfield, MSHQS, BSDH, RDH, CDIPC
September 10	**Enhancing Safety in Dental Practices: Strategies for Improvement from Pediatric Dentistry**	Joe Castellano, DDS, and Alexandra Otto, DDS, FAGD, FACD, FPFA
October 29	**Instrument Reprocessing + Accreditation Surveys: Transforming Stress into Success!**	Karen Gregory, RN, CDIPC, and Lisa Puisello, DISIPC
November 12	**Antibiotic Prophylaxis: Weighing the Risks and Benefits, Has the Scale Changed?**	Erinne Kennedy, DMD, MPH, MMSc
December 3	**Boil Water Notice! How to Manage Dental Water**	Jackie Dorst, RDH, BS

CERP CREDITS - CE QUIZ

Get Your CE Credit Online: ADS is an ADA CERP Recognized Provider.*

Follow the instructions below to receive 1 hour of CE credit FREE to ADS members.

Step 1: Go to **myads.mclms.net/en/package/15220/view** to register or purchase the course.

Step 2: Log in to your ADS member account or create a new user account.

Step 3: Complete the registration form. ADS members FREE! Non-members $20.

Step 4: Complete the online course and pass with 7 out of 10 correct answers. Your CE certificate will be emailed to you and also available in your ADS Infection Prevention & Safety CE Center account under MY ACCOUNT > MY CERTIFICATES.

QUESTIONS TO ONLINE QUIZ:
Select the most correct answer.

1. Identify the correct statement regarding required dental safety training.
   a. The goal of OSHA training is to protect patients.
   b. Dental workers should be able to identify all the ways bloodborne diseases can be transmitted.
   c. Training to avoid exposure to bloodborne pathogens is defined as needlestick prevention.
   d. The goal of OSHA training is to satisfy OSHA regulations.

2. Identify the one incorrect statement below.
   a. Pathogens can exit the body through mucosal tissue.
   b. Pathogens can enter the body through mucosal tissue.
   c. Pathogens can enter and exit the body through non-intact skin.
   d. Pathogens can enter but not exit the body through non-intact skin.

3. If a dental worker has hand dermatitis, what is the best course of action?
   a. Seek medical care to resolve the dermatitis.
   b. Simply cover the hands with gloves when treating patients.
   c. Wash hands with hair conditioner.
   d. No action is required.

4. Non-intact skin can allow the transmission of non-bloodborne diseases. Identify the types of pathogens that can enter or exit non-intact skin.
   a. Fungi
   b. Bacteria
   c. Viruses
   d. a., b., c. (all of the above)

5. Identify the correct example of parenteral exposure.
   a. Needlestick
   b. Splash into the eye
   c. Drinking contaminated water
   d. From mother to child during pregnancy via the umbilical cord

6. Identify the correct example of infection exposure through mucosal absorption.
   a. Splash of blood in the eye
   b. Touching contaminated items with non-intact skin dermatitis
   c. Transfusion with untested blood
   d. From mother to child during pregnancy via the umbilical cord

7. Identify the type of hepatitis that is transmitted by ingestion or intimate contact.
   a. Hepatitis B virus
   b. Hepatitis C virus
   c. Hepatitis A virus
   d. Metabolic dysfunction-associated steatotic liver disease

8. Identify the authorities that have legislated work restrictions for dental workers with exudative lesions or weeping dermatitis.
   a. Federal OSHA
   b. Some State Dental Boards
   c. State Dental Associations
   d. All of the above

9. Identify the incorrect statement regarding the risk of dental workers working with hands having non-intact skin.
   a. Non-intact skin is a portal of entry and exit for bloodborne and non-bloodborne pathogens.
   b. The condition causing the non-intact skin may be infectious.
   c. Damaged skin can be difficult to clean effectively and may harbor microbes.
   d. Dermatitis is best resolved over time without treatment.

10. Identify the incorrect protocol to follow if a dental worker has hand dermatitis.
    a. Do not call attention to the condition.
    b. Recognize the condition as an infection transmission risk.
    c. Follow State regulations, best practices, and CDC recommendations to protect the worker and others.
    d. Follow medical advice for eliminating allergens and irritants that cause or worsen the condition.

ADA C·E·R·P® | Continuing Education Recognition Program

*ADA CERP is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA CERP does not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry. Concerns or complaints about a CE provider may be directed to the CE provider or to the ADA Commission for Continuing Education Recognition Program (CERP) at ADA.org/cerp. Please email the ADS central office at office@myads.org or call 410-571-0003 if you wish to be in contact with the course author/creator(s) with any questions or for clarification of course concepts. All participants assume individual responsibility for providing evidence of contact hours of continuing education to the appropriate authorities and for the maintenance of their individual records. Publication date: June 2025. Expiry date: June 2028.

DENTAL INFECTION CONTROL EDUCATION & CERTIFICATION®

SET YOURSELF APART

Education

ADS-DALE Foundation Dental Infection Prevention and Control Certificate™

A comprehensive online educational program for anyone who wants to learn more about dental infection prevention and control. Earning the certificate demonstrates an in-depth understanding of **CDC guidelines and OSHA standards related to standard precautions.**

Developed by ADS (formerly known as OSAP) and the DALE Foundation

Certification

Dental Industry Specialist in Infection Prevention and Control® (DISIPC®)

Intended for those who play important roles in dental infection prevention and control, such as practice managers, sales representatives, customer service personnel, and service technicians who do not provide clinical care. Earning DISIPC demonstrates knowledge related to infection control guidelines and standards.

Developed by ADS (formerly known as OSAP) and DANB

Certified in Dental Infection Prevention and Control® (CDIPC®)

Intended for the dental team, educators, consultants, and others with a clinical background. Earning CDIPC certification demonstrates an advanced level of infection control guidelines and standards knowledge and the analytical and critical-thinking skills to apply them in various scenarios.

Developed by ADS (formerly known as OSAP) and DANB

ADS Association for Dental Safety formerly known as OSAP

DANB Dental Assisting National Board

The DALE Foundation Official DANB Affiliate

dentalinfectioncontrol.org