Compliance Requirements In Dental Facilities and Partnerships with Dental Assisting Programs

Compliance in Dental Facilities

- Infection Control
- Radiology

Transmission of infectious agents among patients and dental health care personnel (DHCP) in dental settings is rare. However, transmissions in dental settings, have been documented. In most cases, investigators failed to link a specific lapse of infection prevention and control with a particular transmission. However**, there have been reported breakdowns in basic infection prevention procedures included unsafe injection practices, failure to heat sterilize dental handpieces between patients, and failure to monitor autoclaves.** These reports highlight the need for comprehensive training to improve understanding of underlying principles, recommended practices, their implementation, and the conditions that have to be met for disease transmission. **All dental settings, regardless of the level of care provided, must make infection prevention a priority and should be equipped to observe Standard Precautions and other infection prevention recommendations .**

Infection Control and SPICE

- Each facility must have ***At Least*** one clinical employee that has taken the Statewide Program for Infection Control and Epidemiology course and received certificate.

The Statewide Program for Infection Control and Epidemiology promotes prevention and control of health care associated infections in North Carolina and beyond by providing evidence based education and consultation across the healthcare spectrum. SPICE is recognized as the foremost public health infection prevention leader in North Carolina and, through education, strives to create the safest possible healthcare environment for patients, their families and healthcare personnel by minimizing or preventing the risk of acquiring a healthcare-associated infection in all types of healthcare facilities.

Purpose of SPICE

- The purpose of the SPICE course is to provide a standard approved curriculum which meets the requirements of 10A North Carolina Administrative Code 41A.0206 (10A NCAC 41A.0206) Infection Prevention in Healthcare Settings rule.
- Because the field of infection prevention is rapidly evolving, SPICE recommends you continue to have ongoing education in infection prevention. SPICE recommends that you retake the course every 3-5 years or as new infection control recommendations happen.

Patients Deserve Effective Infection Prevention

The underlying theme for the SPICE is **“Patients deserve effective infection prevention wherever they receive healthcare.”** Hospitals have established infection prevention programs to enhance patient safety and to meet regulatory and accreditation requirements, however, most patient encounters now take place in the outpatient environment, which are rarely subject to such requirements. This trend underscores the need for strategies to implement and maintain infection prevention programs in all care settings, including rigorous training and oversight of infection prevention activities.

North Carolina Requires that :

- The NC Rule **requires** any healthcare organization that performs invasive procedures to have a **written** infection prevention policy and
- That the organization **must** designate an on-site staff member that is SPICE certified to direct infection prevention activities.

The Infection Control Policy/Program in each dental office must consist of:

- Sterilization and disinfection, including a schedule for maintenance and monitoring of equipment; the policy shall require documentation of maintenance and monitoring to include: physical, chemical and biological monitoring
- Sanitation of rooms and equipment, including cleaning procedures, agents, and schedules;
- Accessibility of infection control devices and supplies; and
- Hand Hygiene
- Procedures to be followed in implementing control measures for HIV and HBV, when a health care provider or a patient has an exposure to blood or other body fluids of another person in a manner that poses a significant risk of transmission

https://www.cdc.gov/hai/pdfs/hiv/occupational_exposure_HIV_08_11x17.pdf

Management of Occupational Blood Exposures to HBV, HCV, or HIV

Step 1:

Provide immediate care to the exposure site

- Wash wounds and skin with soap and water
- Flush mucous membranes with water
- Irrigate eyes with clean water, saline, or sterile irrigant
- Do not squeeze wounds or use antiseptics or caustic agents (e.g., bleach)

Step 2:

Evaluate the exposure

Determine risk associated with exposure

Exposures

Exposures posing risk of infection transmission
- Percutaneous injury
- Mucous membrane exposure
- Non-intact skin exposure
- Bites resulting in blood exposure to either person involved

Substances

Substances posing risk of infection transmission
- Blood
- Fluids containing visible blood
- Potentially infectious fluids (semen; vaginal secretions; and cerebrospinal, synovial, pleural, peritoneal, pericardial, and amniotic fluids) or tissue
- Concentrated virus

Status

Determine **infection status** of source (if not already known)
- Presence of HBsAg
- Presence of **HCV** antibody
- Presence of **HIV** antibody*
- For unknown sources, evaluate the likelihood of exposure to a source at high risk for **HBV, HCV,** or **HIV** infection
- Do not test discarded needles

**Rapid testing facilitates making timely decisions about HIV PEP.*

Susceptibility

Determine susceptibility of exposed person
- **Hepatitis B** vaccine status
- **HBV** immune status (anti-HBs titer) if vaccine response status is unknown
- Anti-**HCV** and ALT
- **HIV** antibody

Step 3:

Give postexposure prophylaxis (PEP) for exposures posing risk of infection transmission

HBV — see Table
- Give PEP as soon as possible, preferably within 24 hours
- PEP can be given to pregnant women

HCV — PEP not recommended

HIV — see Table
- Initiate PEP within hours of exposure
- Offer pregnancy testing to all women of childbearing age not known to be pregnant; PEP can be given to pregnant women
- Seek expert consultation if viral resistance suspected
- Administer PEP for 4 weeks if tolerated

Step 4:

Perform follow-up testing and provide counseling

Advise exposed persons to seek medical evaluation for any acute illness occurring during follow-up

HBV exposures
- Test for anti-HBs 1-2 months after last dose of vaccine series or vaccine booster
- Follow-up not needed if exposed person immune to hepatitis B or received HBIG PEP

HCV exposures
- Perform testing for anti-HCV and ALT 4-6 months after exposure
- Perform HCV RNA testing at 4-6 weeks if earlier diagnosis of HCV infection desired
- Confirm repeatedly reactive anti-HCV EIAs with supplemental tests

HIV exposures
- Evaluate exposed persons taking PEP within 72 hours after exposure and monitor for drug toxicity for at least 2 weeks
- Perform HIV-antibody testing for at least 6 months postexposure (e.g., at baseline, 6 weeks, 3 months, and 6 months)
- Perform HIV antibody testing for illness compatible with an acute retroviral syndrome

Recommended HBV PEP

Vaccination and antibody response status of exposed healthcare personnel*	Treatment		
	Source HBsAg† positive	Source HBsAg† negative	Source unknown or not available for testing
Unvaccinated	HBIG§ x 1 and initiate hepatitis B vaccine series	Initiate hepatitis B vaccine series	Initiate hepatitis B vaccine series
Previously vaccinated			
Known responder¶	No treatment	No treatment	No treatment
Known nonresponder**	HBIG x 1 and initiate revaccination or HBIG x 2††	No treatment	If known high risk source, treat as if source were HBsAg positive
Antibody response unknown	Test exposed person for anti-HBs§§ 1. If adequate,¶ no treatment is necessary 2. If inadequate,** HBIG x 1 and vaccine booster	No treatment	Test exposed person for anti-HBs§§ 1. If adequate, no treatment is necessary 2. If inadequate, administer vaccine booster

* Persons who have previously been infected with HBV are immune to reinfection and do not require postexposure prophylaxis
† Hepatitis B surface antigen
§ Hepatitis B immune globulin; dose is 0.06 mL/kg intramuscularly
¶ A responder is a person with adequate levels of serum antibody to HBsAg (i.e., anti-HBs ≥10 mIU/mL)
** A nonresponder is a person with inadequate response to vaccination (i.e., serum anti-HBS <10 mIU/mL)
†† The option of giving one dose of HBIG and reinitiating the vaccine series is preferred for nonresponders who have not completed a second 3-dose vaccine series; for persons who previously completed a second vaccine series but failed to respond, two doses of HBIG are preferred
§§ Antibody to HBsAg

Recommended HIV PEP

Percutaneous injuries					
	Infection status of source				
	HIV-positive, class 1*	HIV-positive, class 2*	Source of unknown HIV status	Unknown source	HIV-negative
Exposure type	Asymptomatic HIV infection or known low viral load (e.g., <1500)	Symptomatic HIV infection, AIDS, acute seroconversion, or known high viral load	e.g., deceased source person with no samples available for HIV testing	e.g., a needle from a sharps disposal container	
Less severe, e.g. solid needle, superficial injury	Recommend basic 2-drug PEP	Recommend expanded ≥3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP† for source with HIV-risk factors§	Generally, no PEP warranted; however, consider basic 2-drug PEP† in settings in which exposure to HIV-infected persons is likely	No PEP warranted
More severe, e.g., large-bore hollow needle, deep puncture, visible blood on device, or needle used in patient's artery or vein	Recommend expanded ≥3-drug PEP	Recommend expanded ≥3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP† for source with HIV-risk factors§	Generally, no PEP warranted; however, consider basic 2-drug PEP† in settings where exposure to HIV-infected persons is likely	No PEP warranted
Mucous membrane exposures and nonintact skin¶ exposures					
	Infection status of source				
	HIV-positive, class 1*	HIV-positive, class 2*	Source of unknown HIV status	Unknown source	HIV-negative
Exposure type	Asymptomatic HIV infection or known low viral load (e.g., <1500)	Symptomatic HIV infection, AIDS, acute seroconversion, or known high viral load	e.g., deceased source person with no samples available for HIV testing	e.g., splash from inappropriately disposed blood	
Small volume, e.g., few drops	Consider basic 2-drug PEP†	Recommend basic 2-drug PEP	Generally, no PEP warranted¶	Generally, no PEP warranted	No PEP warranted
Large volume, e.g., major blood splash	Recommend basic 2-drug PEP	Recommend expanded ≥3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP† for source with HIV-risk factors§	Generally, no PEP warranted; however, consider basic 2-drug PEP† in settings in which exposure to HIV-infected persons is likely	No PEP warranted

Minimum Infection Control Every Sterilization or Clinical Staff Member Should Have

- Highly recommend all people working in sterilization and clinical area of dentistry to have at least taken a basic three hour infection control course to include:
- Basic infection control epidemiology
- Proper handwashing
- How to use PPE correctly
- Disinfection/Sterilization
- Waste management

Summary of Infection Prevention Practices in Dental Settings

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

Radiation Health and Safety

Each dental facility must have a **written** Radiation Health and Safety Manual

North Carolina Regulations for Protection Against Radiation Rule .1603, titled “Radiation Protection Programs,” states that each licensee or registrant shall develop, document and implement a **written** radiation protection program.

Each facility is unique, each written radiation protection program should be customized to its specific activities within the dental facility.

Radiation Health and Safety Program

- A radiation protection program is intended to ensure that all activities and operations involving the use of X-rays are performed in such a way as to protect users, staff, patients and the public from exposure to unnecessary radiation in practices that use X-ray equipment. The basis of this plan is to maintain all radiation exposures As Low As Reasonably Achievable, which is abbreviated and known as ALARA.

https://radiation.ncdhhs.gov/Xray/documents/healartsprog.pdf

(Radiation Protection Program Guide)

Radiation Health and Safety Program

1. **ALARA Radiation Protection Principles**

- Identify closure of doors or controlling hallways to prevent unnecessary exposure to staff or public
- Identify any additional procedures or controls used that are specific to the facility to achieve ALARA

Occupational protection should include employing the use of protective barriers, personal monitoring, education on the effects of ionization radiation and proper implementation of safety procedures.

Radiation Health and Safety Program

2. Personnel

- Describe how individuals are notified if occupational doses exceed 1 mSv (100 mrem) or 1 mSv (100 mrem) to any individual organ or tissue
- State the dose limits to an Embryo/Fetus.
- Explain the facility's personnel voluntary declared pregnancy policy.
- Describe the facility's personnel monitoring exposure policy. Frequency of exchanging badges - Storage of control and personnel badges - If personnel monitoring not provided to operators, explain how facility met compliance to regulations.
- Describe the facility's process to obtain prior occupational dose for new workers..

Radiation Health and Safety Program

3. Unit Security

• Equipment control measures in place to prevent unauthorized use or device removal.

4. Exceeding Exposure Limits

• Identify the facility's reporting process for when a dose limit is exceeded

• Describe how data of the affected person is reported to both the individual and to Radiation Protection. (Estimated dose - Cause of elevated exposure - Corrective Action - Name & Date of Birth - The last 4 of the Social security number and/or employee identifier)

Radiation Health and Safety Program

5. Written Safety Procedures:

• Describe how written safety procedures are made available to all individuals operating X-ray equipment.

• Explain types of auxiliary support of patient and/or image receptor that may be used during an exposure:

- State the facility requirements for selecting a mechanical holding device.
- State the instructions provided to a human holder during an exposure.
- Identify the facility’s criteria for selecting a human holder

Radiation Health and Safety Program

6. Operator Training Policy

- Describe the education or training requirements for operators of equipment: If it is required for operators to be registered or certified, a statement to this fact is sufficient

7. Technique Chart

- Describe exposure techniques for the different body sizes and exams performed. - If more than one method used, describe each.
- Define your requirements for a person, other than the patient, to be in the X-ray room during exposures

Radiation Health and Safety Program

- State how and when lead shielding is used on patients
- Define who can order X-rays and re-takes in the facility.
- Outline the procedures performed used at the facility to minimize patient & personnel exposure.
- State how patients' radiation exposures are minimized to produce images of good diagnostic quality
- Explain the facility's patient pregnancy policy: How is it determined if a patient may be pregnant? Precautions taken if the patient is pregnant.
- Define any additional procedures or equipment used specific to the facility to meet the objective of minimizing exposure.
- Mobile/Portable exams (if applicable) - Describe when mobile or portable machines are used. Describe how the operator is to maintain visual contact of the patient during an exposure.

Radiation Health and Safety Program

- Describe how the operator is to maintain visual contact of the patient during an exposure. (Describe visual contact with patient during Pan, CT, Tomography or Cephalometric procedures)
- State the location of the operator during an exposure
- Describe visual indicator & audible signal observable at or from the operators protected area during an exposure. Both the audible and visible indicators must work properly to help ensure unnecessary repeat exposures to the patient. Explanation to the operator of what steps to take in the event either the audible or the visual indicator is not working

Radiation Health and Safety Program

REVIEW OF RADIATION PROTECTION PROGRAM

In accordance with Rule .1603 (c) , the registrant shall **annually** review the radiation protection program content and implementation.

Radiation Safety Officer should sign and date the statement.

Radiation Health and Safety Program

Once a written radiation protection program is developed, it must be effectively implemented. Every individual working in or near sources of radiation should be trained on the scope, content, and requirements of the program. The regulations require an annual review of the program, which provides a perfect opportunity for the facility to evaluate the written program against actual practice and either update the program or retrain the staff in the proper procedures. Documentation must be available for review during inspections.

Hand Held Dental Xray Guide

The North Carolina Radiation Protection Section has determined that hand held dental X-ray units may be used under the following conditions:

- Must be a device that has been reviewed and accepted by the N.C. Radiation Protection Section
- Units may be used only for dental intra-oral exams or dental forensics
- All operators must receive training provided by the equipment manufacturer prior to use. Documentation of the training must be maintained by the facility and be available for review during inspections

Hand Held Dental Xray Guide

- The operator must also be authorized to operate X-ray equipment in North Carolina.
- A written Radiation Safety Program must be developed that addresses the use of the hand-held unit. The Safety Program must also include procedures for security of the device
- Security procedures must be used to prevent theft or operation by an unauthorized user. The registrant is responsible for ensuring the unit is stored in a secure location when not in use.
- If use requires angling the unit to a position that reduces the protection to the operator then the operator must be protected from the direct scatter radiation by protective aprons or whole body protective barriers of not less than 0.25 mm lead equivalent.

Hand Held Dental Xray Guide

- Entrances to exam rooms must have radiation area warning signs posted. When the device is used in an open area, a controlled perimeter must be established and monitored by the operator.
- Operators must wear a radiation monitoring device during hand-held dental X-ray exposures
- The unit can only be used at a single location (registered facility) unless the registrant obtains a mobile facility registration.
- If the unit is routinely used in one exam room, the room will require a Shielding Plan Review and Letter of Acknowledgement.

Some of the Most Frequent Violations in Radiation Protection in Dental Facilities

1. The facility Written Radiation Protection program was not available or not adequate.

2. Personnel monitoring equipment has not been supplied and/or used by all occupationally exposed personnel.

3. The registrant failed to annually review the Written Radiation Protection program.

4. The registrant failed to have a copy of the "North Carolina Regulations For Protection Against Radiation" at the facility.

https://radiation.ncdhhs.gov/documents/chapter%2015%20rules.pdf

5. The registrant failed to provide a working technique chart for each diagnostic Xray system.

Partnership with Community College Dental Assisting Programs

Students are on volunteer level and/or clinical experience: free labor

Students get to see a side of dentistry other than “for profit” private practice

Usually slower pace than private practice, more time for teaching moments

Students feel part of community by giving back, which is a goal with in our program

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SPICE (5-6 hrs lecture)

3 hour infection control

21 hour Radiography Certification Course