

Radiology Compliance Branch

RADIATION PROTECTION SECTION



Division of Health Service Regulation • N.C. Department of Health and Human Services

Infection Control

Facilities should establish and comply with a system specifying procedures to be followed for cleaning and disinfecting X-ray equipment after contact with blood or other potentially infectious materials. This system shall specify the methods for documenting facility compliance with the infection control procedures established and shall:

- ❖ Comply with all applicable federal, state and local regulations pertaining to infection control;
- ❖ Comply with the manufacturer's recommended procedures for the cleaning and disinfection of the X-ray equipment used in the facility; or
- ❖ Comply with generally accepted guidance on infection control, until such recommendations become available, if adequate manufacturer's recommendations are not available.

Health care-associated infections are infections that patients acquire during the course of receiving treatment for other conditions within a health care setting. These infections are one of the top ten leading causes of death in the United States.

Improved adherence to hand hygiene has been shown to terminate outbreaks in health care facilities, reduce transmission of antimicrobial resistant organisms (e.g. methicillin resistant staphylococcus aureus or MRSA) and reduce overall infection rates.

Preventing the transmission of infectious diseases to health care personnel is an important aspect within infection control. The Centers for Disease Control and Prevention recommends preventing such transmissions by incorporating effective prevention methods and exposure management techniques.

For this reason, facilities should establish and follow a protocol for cleaning and disinfecting X-ray equipment that has come in contact with blood, other body fluids or potentially infectious materials. For additional guidance on this, refer to the Occupational Safety and Health Administration, or OSHA, "Blood-borne Pathogens Standard (29 CFR 1910.1030)." Any additional state and local regulations on this subject, and manufacturer's procedures specific to their equipment should be followed as well.

To meet the requirements for infection control, the facility should:

Provide written documentation that describes the infection control procedures used by the facility. If reference material is cited in the facility's description of its procedures, the facility must have a copy of the referenced material. The procedures used by the facility must comply with applicable federal, state and local regulations as well as the manufacturer's recommendations.

Maintain documentation (e.g., logs or charts) indicating that the infection control procedures were performed when the equipment came into contact with blood or other potentially infectious materials.

Hand Hygiene

These guidelines for hand hygiene were developed by the CDC's Health Care Infection Control Practices Advisory Committee. These guidelines are part of an overall CDC strategy to reduce infections in health care settings.

Hand-washing with soap and water remains a sensible strategy for hand hygiene in health care settings.

In addition to traditional hand-washing with soap and water, the CDC is also recommending the use of alcohol-based hand rubs by health care personnel for patient care. Alcohol-based hand rubs significantly reduce the number of microorganisms on skin, are fast acting and cause less skin irritation.

The use of gloves does not eliminate the need for hand hygiene. However, gloves reduce hand contamination by 70 to 80 percent, prevent cross-contamination, and protect patients and health care personnel from infection.

The CDC is also recommending health care personnel to avoid wearing artificial nails.

Universal Precautions

Universal precautions are guidelines to protect health care workers as well as patients from exposure to HIV (the virus that causes AIDS), hepatitis B and other blood-borne germs.

Universal precautions state that health care workers treat blood, all body fluids (including semen and vaginal fluid) and tissue from all patients as if they were infectious. Health care workers should take certain precautions when acting in ways that may bring them into contact with infected body fluids.

Health care workers protect themselves by washing hands, not recapping needles by hand after an injection, disposing of needles and other sharp tools in puncture-proof containers, and wearing personnel protective equipment when appropriate such as goggles, gowns and disposable gloves.

Once again the importance of hand-washing is emphasized, along with acceptable alternatives to hand-washing when soap and water. Avoid wearing jewelry, including rings and wristwatches, as well as artificial nails, and keep natural nails less than one quarter of an inch long.

Engineering controls are things you use to reduce the risk of an exposure incident such as sharps disposal containers, self-sheathing needles, safer medical devices or needleless systems, biohazard bags and labels.

Work practice controls are the things you do to reduce the risk of an exposure incident. Such controls include:

- ❖ placing sharp items in puncture-resistant, leak proof and labeled containers;
- ❖ performing all procedures to avoid splashing, spraying, splattering and producing droplets of blood or other potentially infectious materials;
- ❖ removing and disposing of soiled protective clothing;
- ❖ cleaning and disinfecting all equipment and work surfaces soiled by blood or other potentially infectious materials;

- ❖ washing your hands with soap and water, or using alcohol-based hand rubs where hand washing facilities are not available; and
- ❖ refraining from eating, drinking, smoking, applying cosmetics or lip balm, or handling contact lenses or touch your mouth, nose or eyes when you are in an area where you may be exposed to infectious materials.

Occupational exposure means reasonably anticipated contact with blood or other potentially infectious materials (OPIM) that may result from the performance of the employee's job duties. Safer medical devices along with training are the most effective means of reducing injury rates.

Blood-Borne Pathogens

Blood-borne pathogens that cause serious diseases include:

- ❖ Hepatitis B—a liver infection caused by the hepatitis B virus, which may be severe or even fatal.
- ❖ Hepatitis C—a liver disease caused by the hepatitis C virus. It is the most common chronic blood-borne infection in the United States. There is no vaccine against hepatitis C and no treatment after an exposure that will prevent infection.
- ❖ HIV—a virus that attacks white blood cells, destroys the body's ability to fight infections and causes AIDS (acquired immunodeficiency syndrome).

Exposure Control Plan

An exposure control plan is a written document stating the purpose and requirements for universal precautions and infection control. Their purpose is to have an established system in place to help protect employees from infection.

An exposure control plan requires the employer to identify who has occupational exposure to blood. It explains how those individuals will receive training and establishes precautions taken to isolate or prevent the risk of exposure to blood and other potentially infectious materials. The OSHA defines exposure incidents as a specific eye, mouth, other mucous membrane, non-intact skin or parenteral (e.g., needlestick, human bites, cuts or abrasions) contact with blood or OPIM that results from the performance of an employee's duties.

If you have had an exposure incident, immediately take the following steps:

- ❖ Wash needlesticks, cuts and exposed skin with soap and water.
- ❖ Flush splashes of blood or OPIM to the nose, mouth or skin with water.
- ❖ Irrigate eyes with clean water, saline or sterile irrigants.
- ❖ Report the exposure incident to your supervisor.

Recording of Exposure Incidents: The new recordkeeping rule effective Jan. 1, 2002, requires that all employers—whether or not they are covered by the bloodborne pathogens standard—record all work-related needlesticks and cuts from sharp objects that are contaminated with another person's blood. Under this provision, the employer must:

- ❖ Establish a sharps injury log;
- ❖ Record the appropriate information in the sharps injury log, including type and brand of device involved in incident, location of incident, and description of incident; and
- ❖ Maintain confidentiality of sharps injury log so that employees' names not be entered.