Infection Control Risk Assessment (ICRA): Construction Trades Best Practices Awareness Training
This presentation/manual is intended as a supplement to actual hands-on instruction and is designed to teach one or more of the acceptable and recognized methods of performing specific tasks. It is not meant to be, nor should it be considered, an absolute or complete presentation of the procedures and safety measures that relate to these tasks.

Work processes and government safety regulations can and do change, and it is the employer’s responsibility to provide workers with the most recent technical and safety information involving these processes.

The guidelines and instructions presented here are not meant to supersede manufacturers’ instructions or contractors’ jobsite procedures, nor are they meant to replace any current local, state, provincial or federal safety rules or regulations.
It is essential that you always follow all current local, state, provincial, or federal safety rules, regulations, and guidelines whenever you perform any of these tasks.

No statements made in this manual should give the impression that the Carpenters International Training Fund or the United Brotherhood of Carpenters and Joiners of America, their affiliates, representatives, or employees have assumed any part of the employer’s legal responsibility to provide a “safe and healthful workplace,” as mandated by the Occupational Safety and Health Act of 1970.
This workshop promotes the communication, awareness, and protocol for working in the unique environment of the health-care facility. This workshop discusses:

- protection methods and safe work practices
- potential hazards in the health-care environment
- the function of the infection control risk assessment (ICRA) team and how ICRA forms are used
Upon successful completion of this workshop, the participant should be able to:

1. Describe in what ways health-care facilities are unique work environments and why extra precautions must be taken while working in them.

2. List the agencies and organizations that oversee health-care facilities.

3. Identify the hazards that may be present when working in a health-care facility.

4. Describe the importance of good communication between all personnel involved in a health-care facility construction project.
5. Describe the chain of infection.

6. Explain the functions and responsibilities of the ICRA team and how the ICRA form is used to determine a work area classification.

7. Describe the work practice procedures used in a health-care facility.
CONTENTS

Unique Environment
Professionalism
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This chapter:

- provides an awareness of hazardous materials
- focuses on recognizing hazardous materials
- identifies ways to minimize exposure using personal protection methods and proper work safety practices
Upon successful completion of this chapter, the participant should be able to:

1. Explain the importance of hazardous material awareness in health-care construction.

2. Describe what makes an occupied health-care facility a unique environment.

3. Define the chain of infection.
4. Describe the potential hazards that may be found in an occupied health-care facility.

5. Describe the scope of personal responsibility for the construction professional working in an occupied health-care facility.

6. List the agencies and organizations responsible for the regulation of health-care facilities and describe their functions.
KEY TERMS

- aspergillosis
- aspergillus
- chain of infection
- contaminant
- healthcare-associated infections (HAI)
- infection control
- infectious agent
- patient protective apparel (PPA)
Health-care facilities are unique work environments in that they provide a variety of services 24 hours a day, 7 days a week:

- pharmacies
- laboratories
- treatment areas
- rehabilitation areas
When patients are vulnerable or predisposed to infection:

- An awareness of infection control is required, particularly if work activities generate dust.

- Work producing conflicts, such as noise and vibration, may have to be suspended, rescheduled, or completed during off-peak hours to reduce their impact on the facility.

**Infection control** is the discipline concerned with preventing the spread of infections within a health-care facility.
Hazards to Patients

Patients who are immunocompromised have a condition in which the body’s immune system is weakened or impaired and cannot easily fight infection.

Immunocompromised patients include:

- newborns, especially those born prematurely
- patients on specialized equipment, such as dialysis or ventilator
- organ and bone marrow transplant patients
Hazards to Patients (continued)

Healthcare-associated infections (HAI) are infections or illnesses contracted in a health-care facility and are secondary to the initial reason for health-care treatment.
Hazards to Patients *(continued)*

Construction or renovation activity may release contaminants including infectious agents.

A **contaminant** is a substance that, after release into the environment, can expose an unhealthy person to illness or disease. An **infectious agent** is a biological substance capable of transmitting disease.

- They live in areas called reservoirs.
- Types include bacteria, fungi, and mold particulates.

![FIGURE 1](Example of a reservoir)
Bacteria

Bacteria:

- are single-celled microorganisms
- exist everywhere on earth
- cause a wide range of illnesses
- can be beneficial
**Fungi**

A group of microscopic organisms known as fungi:

- live off organic material
- produce energy by absorbing nutrients from organic material
- require three basic things to grow: food, moisture, and air
- grow easily on any organic material as long as moisture and air are present
**Molds**

A certain type of fungi that release spores that can become airborne when disturbed by:

- housekeeping
- renovation and construction work
- airflow
Molds (continued)

Aspergillus is a species of mold with small, aerodynamic spores that can easily become airborne when disturbed.

- It causes aspergillosis, an infectious disease that can invade and infect the entire body.

FIGURE 2
Example of aspergillosis
Molds (continued)

The chain of infection is a way to visualize the elements that contribute to the spread of infection.
**Molds (continued)**

Insulation or drywall that comes into contact with moisture may become a reservoir for aspergillus. Disturbing these materials may provide a portal of exit.

The mode of transmission includes:

- air currents
- construction equipment
- carts and debris
- worker’s clothing

**FIGURE 4**
Portal of exit
Potential Hazards

Potential hazards that may be encountered when working in a health-care facility include:

- radiation
- biohazards
- infectious agents
- chemicals
- lead
- magnetic fields
- silica
- asbestos
Radiation

Warning signs are used to indicate the possible presence of radiation, rays or waves of energy that are found in three forms:

- electromagnetic, such as sunlight
- mechanical, such as sound waves
- particulate, such as X-rays
Biohazards

Biohazards:

- are generated by medical procedures
- include body tissues and fluids
- are typically marked with a warning sign

FIGURE 6
Biohazard warning sign
Infectious Agents

Infectious agents:

- are bacteria, fungi, viruses, or parasites that infect the body
- are transmitted by breathing, touching, and ingesting
- isolation wards and labs are known locations for infectious agents
Chemicals

Chemicals are distinct compounds that have been artificially prepared or purified and include:

- bonding agents
- solvents
- cleaning agents
- adhesives
- finishes
Lead

Lead is found in:

- pipes in older buildings
- paint
- radiation protection

**FIGURE 8**
(B) Lead fishing sinkers

(A) Lead pipe
Unique Environment (continued)

*Magnetic Fields*

The lines of force surrounding a magnetic resonance imaging (MRI) machine are called magnetic fields.
Silica

Silica is only dangerous when in dust form; it is safe in its solid state and is found in:

- sand
- glass
- cement
- gypsum board
- taping compound
Asbestos

Asbestos is used for:

- fireproofing
- electrical and mechanical insulation
- building materials
- chemical filters
- pipe insulation

FIGURE 10
Asbestos pipe insulation
Unique Environment (continued)

Self Check

1. Describe why the health-care facility is a unique environment.

2. Define the chain of infection.

3. What does the term healthcare-associated infection (HAI) mean?

4. List some potential hazards found in an occupied health-care facility.
Professionalism

Health-care facilities ensure the trust of the public by projecting an image of strength, confidence, and professionalism.

When working in a health-care facility:

- meet the standards of the facility
- maintain appropriate appearance
- display professional conduct
- take personal responsibility
- respect patient privacy
Orientation and Security

A site-specific orientation is conducted to familiarize workers with:

- restricted areas
- identification badges
- medical codes
- required permits
- safety precautions
- emergency phone numbers
- break areas
Medical Codes

Medical codes are announced over a speaker system.

- they are unique to each facility
- they should be provided during site-specific training
- good safety practice includes being aware of the codes and their meanings
Personal Responsibility

- Keep immunizations current.
- Notify a supervisor if someone becomes ill.
- Report any illness or infection contracted at the facility to the infection control department to allow steps to be taken to trace, track, and contain potential outbreaks.
Personal Decontamination

- Leave contaminated items in the containment area, including clothing, shoes, and tools that have been in contact with a hazardous material.
- Wash hands and clothing properly.
- Vacuum yourself with a HEPA-filtered vacuum before leaving the site.
**Personal Protective Equipment**

PPE reduces exposure to hazards in the workplace.

- It is anything that is worn that separates employees from hazardous material.
- It may be anything from a simple pair of gloves to a sophisticated self-contained breathing apparatus.
Patient Protective Apparel

Patient protective apparel (PPA) can be anything worn by workers to prevent the transferring of contaminants from the worker to the patients.

FIGURE 11
Examples of PPA
Professionalism (continued)

Additional Responsibilities

- parking in areas designated for construction parking
- using and keeping clean the designated break areas
- smoking only if permitted
- washing hands frequently with antibacterial soap or alcohol-based gel
- covering nose and mouth when sneezing and coughing

FIGURE 12
Proper way of covering the nose and mouth
Privacy: The Patient and the Facility

Failure to follow privacy laws can lead to fines and possible loss of contract. Protected information includes:

- patients’ charts, names, billing, financial, or other identifying information
- employees’ names, salaries, and employment information
- propriety products and product development
- marketing and general business strategies
- any discoveries, ideas, methods, and programs that have not been publicly disclosed
Self Check

1. Why is it important to display appropriate appearance and conduct when working in a health-care facility?

2. Why is it important to notify the appropriate person if becoming sick while working at a health-care facility?

3. What types of information are considered to be related to patient privacy?
Regulatory Agencies, Organizations, and Responsible Parties

It is the responsibility of regulatory agencies to protect the health, safety, and welfare of:

- the public
- patients
- health-care workers
Regulatory Agencies, Organizations, and Responsible Parties (continued)

Canadian Council on Health Services Accreditation (CCHSA)

Centers for Disease Control and Prevention (CDC)

The Joint Commission (TJC)

Centers for Medicare and Medicaid Services (CMS)

Association for Professionals in Infection Control and Epidemiology (APIC)

American Society for Healthcare Engineering (ASHE)
The TJC:

- evaluates and accredits health-care facilities
- inspects and enforces CDC regulations and standards of care
- inspects health-care facilities for CDC compliance
- performs unannounced evaluations of health-care facilities
- may approach a construction worker and ask what is being done to prevent the spread of contaminations
Infection Control: Employees of the Facility

Many health-care facilities have employees whose only duties are to observe and enforce infection control measures.

These employees:

- work with contractors during construction or renovation projects to raise infection control awareness
- enforce infection control measures
Infection Control in the Health-Care Environment During Construction

The American Institute of Architects (AIA) developed the Guidelines for Design and Construction of Hospitals and Health Care Facilities.

The guidelines in 2010:

- The Joint Commission adopted the guidelines as part of their regulations.
- Health-care facilities are required to use the AIA guidelines and to provide documentation of compliance.
Self Check

1. Explain the role of the TJC.

2. What is the responsibility of regulatory agencies and organizations?