1

This presentation 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' job site procedures, nor are they meant to replace any current local, state, provincial, or federal safety rules or regulations.

No statements made in this presentation 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.

2

HEALTH-CARE FACILITY AWARENESS

During construction and renovation in health-care facilities there are times when patients and staff cannot be removed from the facility and work must be preformed around them.

The discipline concerned with the prevention of the spread of infections within a health-care facility is referred to as infection control.

Infection control should be practiced around patients who may be vulnerable to infection or have comorbidities, especially during activities that generate dust. These patients are more susceptible to nosocomial infections

To ensure the safety and well being of patients, health-care workers, staff, visitors and construction workers hazards must be identified. Once identified the health-care teams and the construction teams must share their expertise to ensure patient safety during construction process.

3

WORKSHOP INTRODUCTION

- This workshop is intended to improve communication between health care professionals and construction workers and increase awareness of the protocols for working in the unique environment of the health-care facility

4

WORKSHOP INTRODUCTION CONT.

- Today we will,
  - Identify regulatory Agencies & Organizations
  - Identify Contaminants and Hazards (some unique) found in health-care facilities.
  - Chain of Infection
  - Viruses / Infectious Agent
  - Transmission of Infectious Agents
  - Infection Control Risk Assessment (ICRA) Team
  - Interim Life Safety Measures (ILSM) Team
  - How patient risk groups effect the ICRA and ILSM
  - Recent Recommendations to the ICRA

5

REGULATORY AGENCIES, ORGANIZATIONS, AND RESPONSIBLE PARTIES (CONTINUED)

Centers for Disease Control and Prevention (CDC)

- focuses on infection control and prevention of disease
- provides healthcare facilities with credible information to help make health decisions

The Joint Commission (TJC)

- evaluates and accredits healthcare facilities
- inspects and enforces CDC regulations and standards of care
- inspects healthcare facilities for CDC compliance
- performs unannounced evaluations of healthcare facilities
- may approach a construction worker and ask what is being done to prevent the spread of contaminants

6

6

REGULATORY AGENCIES, ORGANIZATIONS, AND RESPONSIBLE PARTIES (CONTINUED)

Centers for Medicare and Medicaid Services (CMS)	Association for Professionals in Infection Control and Epidemiology (APIC)	American Society for Healthcare Engineering (ASHE)
• considered the predominant healthcare-accrediting body • determines if a facility will receive Medicare and Medicaid funding	• international nonprofit organization made up of infection prevention and control professionals • provides education, research, and practices that promote wellness and reduce the spread of infection	• purpose is to optimize the electrical, mechanical, and physical elements of a healthcare structure's environment

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REGULATORY AGENCIES, ORGANIZATIONS, AND RESPONSIBLE PARTIES (CONTINUED)

- 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

8

HAZARDOUS MATERIAL IN HEALTH CARE

- Any Substance that poses a risk to health, safety and the environment but has useful characteristics is known as a hazardous material. Once the useful characteristics are depleted it becomes hazardous waste and must be discarded properly.
- Health-care jobsites may contain lead, asbestos, silica, mold, radiation, mercury, chemicals, and medical waste

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HAZARDOUS MATERIAL IN HEALTH CARE

Radiation is found in,

- Radiology
- Nuclear medicine
- Oncology
- Radiation is found in two forms:
  - ionizing, such as X-rays
  - non-ionizing, such as lasers

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HAZARDOUS MATERIAL IN HEALTH CARE

Biohazards may pose a health threat and include:

- Needles
- Instruments
- Dressings
- Bodily fluids and tissue

Bacteria, fungi, viruses, or parasites that infect the human body are known as infectious agents.
Infectious agents are responsible for a range of illnesses and exposure can result from breathing, touching and ingesting.

11

HAZARDOUS MATERIAL IN HEALTH CARE

Chemicals

Artificially prepared or purified compounds or substances are known as chemicals, and include such items as:

- Cleaning agents
- Chemical sterilizers
- Formaldehyde
- Bonding agents
- Solvents

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HAZARDOUS MATERIAL IN HEALTH CARE

Magnetic Fields – Magnetic Resonance Imaging (MRI) machine

- magnetic field created around patient
- field and radio pulses produce signals from the patient's body
- signals are detected and converted into images

MRI machines are constantly energized which means there are potential hazards when working near an MRI machine, including,

- The potential "missile effect" where metallic objects are pulled violently towards the machine. Workers toolbelts and tools can have catastrophic results.
- Any metal object on or implanted in the body, are subject to forces of the machine magnetic pull.

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CONTAMINANTS AND INFECTIOUS AGENTS

- A contaminant is any substance that introduces impurities or foreign matter into an atmosphere.
- Many types of contaminants exist in the environment such as:
  - Dust
  - Dirt
  - Many Species of molds
  - Pollen
- Exposure to contaminants is an everyday occurrence

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CONTAMINANTS AND INFECTIOUS AGENTS

A biological substance that is capable of transmitting disease is called an infectious agent

It is important to remember that

- all infectious agents are contaminants, but not all contaminants are infectious agents
- Some infectious agents can be harmful to a person, but not all contaminants are harmful
- Infectious agents transfer disease
- Infectious agents need a pathway to transfer the disease

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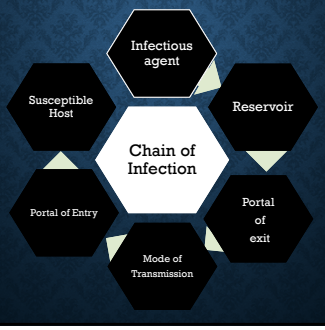
CONTAMINANTS AND INFECTIOUS AGENTS

- **The Chain of Infection is a way to visualize the elements that contribute to the spread of infection**



16

INFECTIOUS AGENTS

- Bacteria
  - Single-celled microorganisms
  - Exist everywhere on earth
  - Can cause a wide range of illnesses

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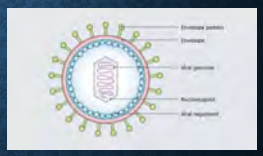
INFECTIOUS AGENTS

- Virus
  - require a host cell
  - alter the host cell's makeup
  - are parasitic



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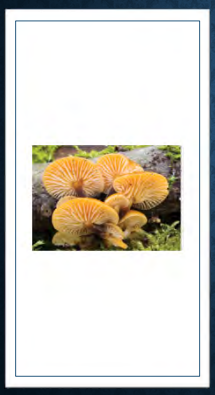

INFECTIOUS AGENTS

- **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**
    - **1. food**
    - **2. moisture**
    - **3. air**
- **Grow easily**

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INFECTIOUS AGENTS

- Molds,
  - A certain type of fungi that release spores that can become airborne when disturbed by:
    - Housekeeping
    - Renovation and construction work
    - Airflow

Reservoir

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INFECTIOUS AGENTS

- Molds (continued)
  - Aspergillus causes aspergillosis, an infectious disease that can invade and infect the entire body.

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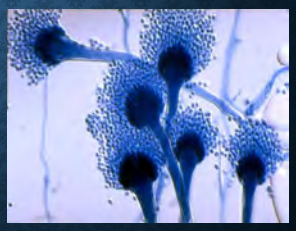
INFECTIOUS AGENTS

- Aspergillus mold is a major threat in a health-care setting, it has spores half the size of other species, is easily made airborne, is aggressive and extremely harmful to immunocompromised patients. Health-care workers and construction crews must work as a team to ensure patient safety and reduce the chance of spreading aspergillus in the facility.

Spores may stay airborne for 24-hours with no air-flow. May stay airborne indefinitely with airflow.



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CONTROLLING CONTAMINANTS

- It is important to keep contaminants from transferring though the air while working in a health care-facility.
- Preventing contaminated air from entering the clean patient-occupied areas helps to minimize the risk of patients contracting infections or illnesses from construction generated infectious agents.
- The Infection Control Risk Assessment (ICRA) team will determine the methods used to control contaminants in the air.
- The ICRA team bases its determinations on the work activities being preformed and the risk to patients in surrounding areas.

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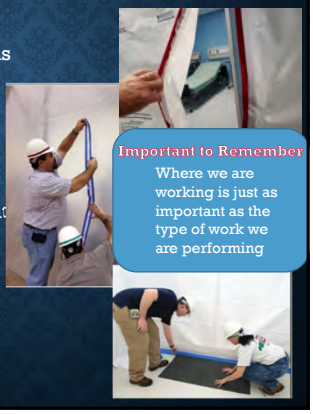
PORTAL OF EXIT

- Contaminants and Infectious agents may exit reservoir sites during construction and must be contained.
- Worker's clothing, shoes, tools, refuse, and equipment all have the potential to allow Contaminants and Infectious agents to exit a contained area once disturbed.



Important to Remember

Where we are working is just as important as the type of work we are performing

24

TRANSMISSION OF CONTAMINANTS AND INFECTIOUS AGENTS

- Vectors
  - To transfer a disease, an infectious agent needs a vector of transfer to a host; diseases do not spread by themselves.
    - blood
    - water
    - air
    - from one surface to another

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TRANSMISSION CONTAMINANTS AND INFECTIOUS AGENTS

- When a contaminant or infectious agent can be moved by or through water it is said to be waterborne.
- A water supply system can become polluted in a variety of ways:
- Sediment buildup in plumbing
- Stagnant water
- Backed up sewer

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TRANSMISSION OF CONTAMINANTS AND INFECTIOUS AGENTS

Black Water

An example of black water is water that has been stagnant from sitting inside a fire sprinkler system for an extended period of time.

A fire sprinkler system may contain water that has become stagnant. The bacteria inside the pipes use up the food source and die, creating a foul smell.

It is also possible for water that carries waste, such as water from toilets and food service sinks to become black water.

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TRANSMISSION CONTAMINANTS AND INFECTIOUS AGENTS

Potable Water,

Water that is fit for consumption although has the potential for disease. Bacteria in the water can cause,

Digestive problems	Lung infections	Skin irritations

One example of a waterborne infectious agent is Escherichia Coli also known as E. coli.

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LEGIONELLA

- Legionella is a bacterium that causes Legionellosis, also known as Legionnaires' disease, which is a respiratory infection linked to stagnant water. Unlike other healthcare associated infections in a hospital this one is controlled from engineering practices.
- From The History Channel

In the midst of a star-spangled summer in which the United States celebrated its bicentennial, more than 4,000 members of the Pennsylvania chapter of the American Legion gathered just blocks away from Independence Hall where the country's forefathers had severed their ties with King George III two centuries earlier. While Philadelphia sweltered on July 21, 1976, the military veterans discovered an icy refuge inside the air-conditioned quarters of the elegant Bellevue-Stratford Hotel as they kicked off the organization's annual convention. For four days Legion members mixed and mingled inside the Philadelphia landmark, dubbed "The Grand Dame of Broad Street," before returning home after what they believed was another successful gathering.

Within days, however, the phone at the American Legion's Pennsylvania headquarters began to ring with the distressing news of the deaths of a number of convention-goers. By August 2, however, it was clear that this was no string of bad luck as 12 members had died and three dozen more had been hospitalized with a mysterious respiratory illness. The pneumonia-like symptoms were nearly the same in every case—muscle aches, headaches, severe coughs, diarrhea, muscle and chest pains and fevers as high as 107 degrees. Many of the dead were older men and smokers, but the ages of the victims ranged from 39 to 82.

In response to the medical mystery, the federal Centers for Disease Control (CDC) launched the largest investigation in its history.

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RECENT ASHE WEBINAR WITH HERMAN MCKENZIE WITH THE TJC

1. Somebody is responsible
2. Water System needs to be diagramed
3. Testing Program in writing, procedures for tuning the water back on after shut off. What about dead legs?
4. What are your Testing Protocols.

- Person responsible needs to know the system, from where the water enters to the point it exits.
- How do we know what the TJC expects to see when entering the facility? Look for what they have already put in writing. If you see a d next to something in the writing that means it needs to be documented.

30

TRANSMISSION CONTAMINANTS AND INFECTIOUS AGENTS

- Bloodborne
  - Contaminants and infectious agents that can be moved by or through blood are referred to as bloodborne.
  - Bloodborne infectious agents can cause such diseases as HIV and hepatitis through;
    - An open sore
    - A wound
    - A scrape

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TRANSMISSION CONTAMINANTS AND INFECTIOUS AGENTS

Bloodborne, cont.

- Medical biohazards can transmit bloodborne contaminants. An elevated sense of awareness should be used when working around them in the health-care facility. Sharps and other biohazard containers are not to be handled by construction workers.

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TRANSMISSION CONTAMINANTS AND INFECTIOUS AGENTS

Airborne

- Contaminants and infectious agents can become airborne and can be moved by or through air.

Airborne contaminants and infectious agents can:

- be inhaled into the respiratory system
- be ingested into the body
- enter the body through open wounds or sores

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TRANSMISSION CONTAMINANTS AND INFECTIOUS AGENTS

Airborne, cont.

- The following are examples of common activities that cause contaminants to become airborne:
  - tearing out carpet
  - grinding
  - moving ceiling tile
  - cutting into a wall

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CONTROLLING CONTAMINANTS

Methods to control contaminants in the air may include:

- Following proper work techniques
- Controlling the negative, positive, and equal air pressure
- Using an air filtration device
- Isolating the ventilation system
- Constructing barriers

A barrier is a temporary structure that divides or separates.

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CONTROLLING CONTAMINANTS

- Negative air pressure - the air pressure within a contained area is less than the air pressure outside the contained area, achieved using High Efficiency Particulate Air Machines (HEPA).
- Positive air pressure – the air pressure within a contained area is greater than the air pressure outside the contained area
- Equal air pressure – the air pressure is the same inside and outside the contained area

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CONTROLLING CONTAMINANTS

High Efficiency Particulate Air (HEPA) Machine

- The HEPA machine filters particulates, dust, and contaminants such as mold spores, out of the air.
- Inside the HEPA machine is a high-efficiency particulate air filter that removes 99.97% of airborne particulates, those greater than 0.3 microns.
- It is important that the HEPA machine run continuously throughout the construction or remodeling project to prevent contaminated air from entering the clean, patient-occupied areas
- To adequately clean the air, the machine must be used in a sealed contained area.

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CONTROLLING CONTAMINANTS
(CONTINUED)

***HEPA Maintenance** (continued)*

A particle counter can be used to determine if the machine is working properly.

- Establish a baseline reading before the job starts.
- Compare the baseline to subsequent readings and analyze for elevated counts.

Controlling Contaminants 38

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Checking HEPA Machine Efficiency

Intake

Particulate Count at the Intake

Discharge

Particulate Count at the Discharge

Equation

PC@HEPA Intake – PC @ HEPA Discharge / PC @ HEPA Intake X 100 = HEPA efficiency

Example

Intake 417,640 Discharge 390
417,640 – 390 =417,250
417,250 / 417,640 = .999066% X 100
99.91% efficient

Controlling Contaminants 39

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PORTAL OF ENTRY

- The site at which infectious agents enter the body is known as the Portal of Entry.
- They enter the body through
  - Respiratory Tract (mouth and nose)
  - Gastrointestinal Tract (mouth and oral cavity)
  - Urogenital Tract (reproductive and urinary system)
  - Breaks in the skin surface (epidermis)

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Risk Evaluation

•Construction professionals should be aware of potential hazards, but they are not responsible for evaluating risk levels or safety and security issues in the health-care facility.

- **Infection Control Risk Assessment (ICRA) team**—the group that decides what precautions are necessary to isolate the work area and protect patients
- **Interim Life Safety Measures (ILSM) team**—the group that identifies fire, safety, and security steps

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CONTROLLING CONTAMINATES AND PATIENT HEALTH USING THE

Infection Control Risk Assessment (ICRA) team

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INFECTION CONTROL RISK ASSESSMENT (ICRA) TEAM

- What are the functions and responsibilities of the ICRA team?
- Using the infection control form to determine the type, group, and class of construction activity.
- Identify the important information relating to the infection control construction permit.

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RESPONSIBILITIES OF THE ICRA TEAM

- Deciding what precautions are necessary to isolate the work area and protect patients.
- Prior to beginning a construction renovation project, the ICRA team studies the scope of the work to be done and evaluates the risk factors and potential hazards that affect;
  - Patients
  - Laboratories
  - Sterile Supplies
  - Medical equipment

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RESPONSIBILITIES OF THE ICRA TEAM

- The team's assessment is done to minimize the risk of hospital-associated infections.
- Isolating the work area and minimizing potential hazards reduce the risk of hospital-associated infections.
- Hospital-associated infections are the result of exposure to infectious agents that may:
  - Exist in the health-care facility
  - Be brought in by other patients

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RESPONSIBILITIES OF THE ICRA TEAM

- When determining what precautions are necessary to protect patients from hazards created by construction activity, the team considers various aspects of the project, such as:
- Foot and material traffic
- Noise levels and vibrations
- Entry and exit routes
- Barrier types

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RESPONSIBILITIES OF THE ICRA TEAM

INFECTION CONTROL RISK ASSESSMENT FORM

- The ICRA team puts the information gathered into a document known as the infection control risk (ICRA) form.
- This information is then used to determine the project type, risk group, and work area class.
- The ICRA team uses the ICRA form as a guideline for the precautions required during the construction project and after the project completion.
- The size of the facility and the scope of the project determine how many people make up the ICRA team.

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RESPONSIBILITIES OF THE ICRA TEAM

The ICRA team may consist of one or more of the following people continued -

- Infection control department
- Risk management personnel
- Industrial hygienist
- Facilities engineer
- Architects
- Mechanical, electrical, and structural engineers
- Epidemiologists
- Laboratory personnel

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RESPONSIBILITIES OF THE ICRA TEAM

The ICRA team may consist of one or more of the following people:

- Director of specialized departments, such as transplants, oncology, dialysis, and intensive care unit (ICU)
- Employee safety and regulatory affairs personnel
- Toxicologists
- Environmental services
- **Interim Life Safety Measures (ILSM) Team**
  - ILSM team is responsible for identifying fire, safety, and security measure, as well as the routing of construction material and personnel

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DOCUMENTATION

- To help ensure the health and safety of patients and facility staff, it is important that the guidelines set forth by the ICRA team be understood and followed by all involved in the construction or renovation process.
- The Joint Commission (TJC) requires that the ICRA team complete an evaluation form (ICRA form), before the start of the project

The ICRA form:

* may vary from facility to facility

* must meet TJC requirements

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ICRA form is broken down into 14 steps.

Step 1: Project Type

There are four types of construction project activities:

- Type A – inspection and noninvasive activities that do not generate dust
- Type B – small scale, short duration activities that create minimal dust; must be completed in a single work shift
- Type C – activities completed in multiple work shifts that generate significant dust or require the demolition or removal of fixed building components or assemblies
- Type D – major demolition work and construction and renovations projects that require multiple, consecutive work shifts

DOCUMENTATION

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DOCUMENTATION

Step 1: Project Type,

TABLE 1 Step 1 of the ICRA Form	
Project type	
Type A	**Inspection and noninvasive activities** Includes but is not limited to: • removal of ceiling tiles for visual inspection only, for example, limited to 1 tile per 50 ft² • painting but not sanding • wall covering, electrical trim work, minor plumbing, and activities that do not generate dust or require cutting of walls or access to ceilings, other than for visual inspection
Type B	**Small scale, short duration activities that create minimal dust** Includes but is not limited to: • installation of telephone and computer cabling • access to chase spaces • cutting of walls or ceilings where dust migration can be controlled
Type C	**Work that generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies** Includes but is not limited to: • sanding of walls for painting or wall covering • removal of floor coverings, ceiling tiles, and casework • new wall construction • minor ductwork or electrical work above ceilings • major cabling activities • any activity that cannot be completed within a single work shift
Type D	**Major demolition and construction projects** Includes but is not limited to: • activities that require multiple or consecutive work shifts • required heavy demolition or removal of a complete cabling system • new construction

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DOCUMENTATION

Step 2 : Patient Risk Group

There are four types of patient risk groups:

Low Risk – group that includes healthy patients or staff or areas with no people	Medium Risk – group that includes patients that are not very sick are not immunocompromised	High Risk – group that includes patients with more serious health issues, may be immunocompromised, physical muscular-skeletal problems, young children, infants, and elderly	Highest Risk – group that includes patients with most serious health issues and immunocompromised patients

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DOCUMENTATION

- Patient Risk Group, cont.

TABLE 2 Step 2 of the ICRA Form			
Patient Risk Group			
Low risk	**Medium risk**	**High risk**	**Highest risk**
Office areas	• Cardiology • Echocardiography • Endoscopy • Nuclear medicine • Physical therapy • Radiology/MRI • Respiratory therapy	• Coronary care units • Emergency room • Labor & delivery • Laboratories (specimen) • Medical unit • Newborn nursery • Outpatient surgery • Pediatrics • Pharmacy • Post-anesthesia care unit • Surgical units	• Any area caring for immunocompromised patients • Burn unit • Cardiac cath lab • Central sterile supply • Intensive care units • Negative pressure isolation rooms • Oncology • Operating rooms including C-section rooms

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DOCUMENTATION

Step 3: ICRA Matrix

- The ICRA matrix is used to match the project from step 1 with the patient risk group from step 2 to determine the work area classification in Step 3.
- There are four work classifications, and the intensity of infection control activity increases with each classification level.

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- ***Step 3: ICRA Matrix***
- The ICRA **matrix** is the graph used to match project type and patient risk to determine work area classification I, II, III, or IV.

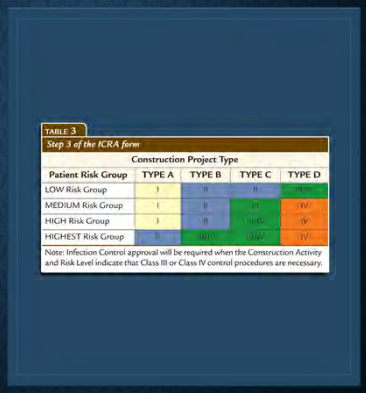

TABLE 3
Step 3 of the ICRA form

	Construction Project Type			
Patient Risk Group	TYPE A	TYPE B	TYPE C	TYPE D
LOW Risk Group	I	II	II	III/IV
MEDIUM Risk Group	I	II	III/IV	III/IV
HIGH Risk Group	I	II	III/IV	III/IV
HIGHEST Risk Group	II	III/IV	III/IV	IV

Note: Infection Control approval will be required when the Construction Activity and Risk Level indicate that Class III or Class IV control procedures are necessary.

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DOCUMENTATION EXAMPLE

This project involves installing a door and frame in an existing drywall system painted wall that divides two offices. This can be completed in a single shift.

- The ICRA form shows that this project is a Type B, as it is small scale and of short duration and creates minimal dust.

Construction Project Activity	
Type B	**Small scale, short duration activities that create minimum dust** Includes, but is not limited to: • installation of telephone and computer cabling • access to chase spaces • cutting of walls or ceilings where dust migration can be controlled

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DOCUMENTATION EXAMPLE

- The project will be completed in an office area. The first column of the Patient Risk Group portion of the form shows this to qualify as low risk.

Patient Risk Group			
Low risk	Medium risk	High risk	Highest risk
Office areas	• Cardiology • Echocardiography • Endoscopy • Nuclear medicine • Physical therapy • Radiology/MRI • Respiratory therapy	• Coronary care units • Emergency room • Labor & delivery • Laboratories (specimen) • Medical units • Newborn nursery • Outpatient surgery • Pediatrics • Pharmacy • Post-anesthesia care unit • Surgical units	• Any area caring for immunocompromised patients • Burn unit • Cardiac cath lab • Central sterile supply • Intensive care units • Negative pressure isolation rooms • Oncology • Operating rooms including C-section rooms

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DOCUMENTATION

- The matrix on the ICRA form shows that the column for the construction type of the project Type B intersects the Patient Risk Group row for the Low Risk Group, making this project a Class II.

Work Area Classification Matrix				
	Construction Project Type			
Patient Risk Group	TYPE A	TYPE B	TYPE C	TYPE D
LOW Risk Group		II		
MEDIUM Risk Group				
HIGH Risk Group				
HIGHEST Risk Group				

Note: Infection control approval will be required when the construction activity and risk level indicate that Class III or Class IV control procedures are necessary.

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DOCUMENTATION

Changes in Work Classification

During the construction or renovation project it is possible for the classification of the project to change. Changes in work processes or complications that occur can cause the project to be reclassified to a higher level.

- For example, if mold or other hazardous material is discovered, work must stop immediately, and the ICRA team or a facility representative will re-evaluate the necessary precautions.
- Projects can be reclassified to a lower level once the dust-generating activities are completed.

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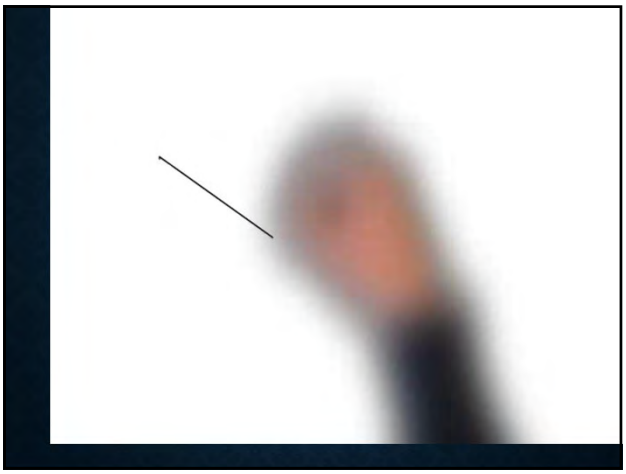

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ASHE ICRA 2.0 IF ADOPTED STEP 3 WILL CHANGE WWW.ASHE.ORG/ICRA2

Step 3: ICRA Matrix

TABLE 3 Step 3 of the ICRA Form

Patient Risk Group	Construction Project Type			
	TYPE A	TYPE B	TYPE C	TYPE D
LOW Risk Group	I	II	II	III*
MEDIUM Risk Group	I	II	III*	IV
HIGH Risk Group	I	III	IV	V
HIGHEST Risk Group	III	IV	V	V

Infection control permit and approval will be required when Class of Precautions III (Type C) and all Class of Precautions IV or V are necessary.

Environmental conditions that could affect human health, such as sewage, mold, asbestos, gray water and black water will require Class of Precautions IV for LOW and MEDIUM Risk Groups and Class of Precautions V for HIGH and HIGHEST Risk Groups.

*Type C [Medium Risk groups] and Type D [Low Risk Groups] work areas [Class III precautions] that cannot be sealed and completely isolated from occupied patient care spaces should be elevated to include negative air exhaust requirements as listed in Class IV Precautions.

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DOCUMENTATION

Required Infection Control Precautions,

- There are predetermined precautions for each class that must be followed by all personnel working on the project.
- As the precautions are based upon class, they can only be determined after identifying the class.
- These precautions can be found in an ICRA form entitled Description of Required Infection Control Precautions by Class.
- The precautions are required before the project starts, during the project, and after the project is completed. They escalate as the class level increases and are designed to ensure the safety of the patients.

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	During Construction Project	Upon Completion of Project
CLASS I	1. Execute work by methods that minimize raising dust from construction operations. 2. Immediately replace a ceiling tile displaced for visual inspection.	1. Clean work area upon completion of task.
CLASS II	1. Provide active means to prevent airborne dust from dispersing into atmosphere. 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with tape. 4. Block off and seal air vents. 5. Place dust mats at entrances and exits of work areas. 6. Remove or isolate HVAC system in areas where work is being performed.	1. Wipe work surfaces with disinfectant. 2. Contain construction waste in tightly covered containers before transport. 3. Wet mop and/or vacuum with HEPA-filtered vacuum before leaving work area. 4. Upon completion, restore HVAC system where work was performed.
CLASS III	1. Remove or isolate HVAC system in area where work is being done, to prevent contamination of duct system. 2. Complete all critical barriers—for example, drywall, plywood, plastic—to seal area from nonwork area before construction begins. Or, implement control cubs method with HEPA-filtered vacuum for vacuuming prior to exit. 3. Maintain negative air pressure within work site utilizing HEPA-equipped air filtration units. 4. Contain construction waste in tightly covered containers before transport. 5. Cover transport receptacles or carts. Tape down covering unless cart has a solid lid.	1. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Department. 2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 3. Vacuum work area with HEPA-filtered vacuum. 4. Wet mop area with disinfectant. 5. Upon completion, restore HVAC system where work was performed.
CLASS IV	1. Isolate HVAC system in area where work is being done, to prevent contamination of duct system. 2. Complete all critical barriers—for example, drywall, plywood, plastic—to seal area from nonwork area before construction begins. Or, implement portable cube method with HEPA-filtered vacuum for vacuuming prior to exit. 3. Maintain negative air pressure within work site utilizing HEPA-equipped air filtration units. 4. Seal holes, pipes, conduits, and punctures. 5. Construct anteroom. Require all personnel to pass through anteroom so they can be vacuumed using a HEPA-filtered vacuum cleaner before leaving work site. Or, require all personnel to wear cloth or paper coveralls that are removed each time they leave the work site. 6. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area. 7. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Department.	1. Remove barrier material carefully to minimize spreading of dirt and debris associated with construction. 2. Contain construction waste in tightly covered containers before transport. 3. Cover transport receptacles or carts. Tape down covering unless cart has a solid lid. 4. Vacuum work area with HEPA-filtered vacuum. 5. Wet mop area with disinfectant. 6. Upon completion, restore HVAC system where work was performed.

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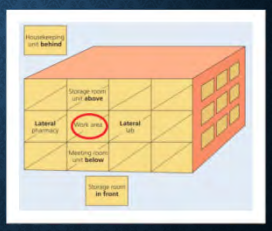
DOCUMENTATION

Step 4: Surrounding Project Area

In this step, the potential impact to rooms surrounding the project area is assessed.

If patients in surrounding rooms will be affected by noise or vibration, they may need to be moved.

This need is assessed by determining the patient risk group above, below, and around the area of the project.



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DOCUMENTATION

Step 5: Identify Specific Site

For example,

- Patient room
- Clean utility room
- Medication room

Step 6: Related Issues

- All issues related to the mechanical systems are recorded in step 6.
- In older facilities, for example, if the water must be shut off in one room it may also need to be shut off for a larger area.

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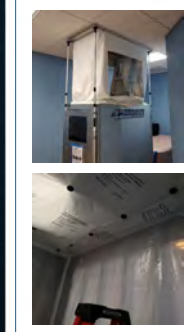

DOCUMENTATION

Step 7: Containment Measures

In this step the ICRA form is designed to determine if containment measures are needed, these would be temporary walls are rooms that separate the construction work from the patients and health care workers. If needed

If so:

- soft or hard wall barrier?
- Is HEPA filtration required?

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DOCUMENTATION

Step 8: Potential Risk of Water Damage

This step is designed to determine:

- The potential risk of water damage
- The possible risk of compromising the structural integrity of the facility

Step 8 is also designed to record information, such as:

- Structural members that will be removed or altered
- Sprinkler pipes or plumbing pipes that will be removed or altered

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DOCUMENTATION

Step 9: Work Hours

Work at a health-care facility must often be preformed at a time that is convenient for the facility and does not interfere in operations.

The actual time the work will be completed is recorded in this step:

- **Will the work be completed during nonpatient-care hours?**
- **Will the work be completed in segments?**

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DOCUMENTATION

Steps 10-13: Facility Design

- **Any issue concerned with the facility design are covered in steps 10-13.**
- **These steps deal with building codes and the Americans with Disabilities Act.**
- **They also address requirements of the Facility Guidelines Institute (FGI).**

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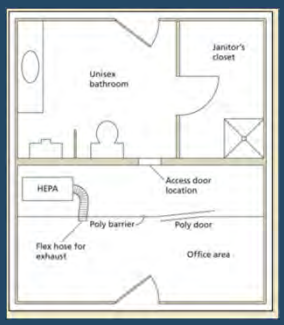
DOCUMENTATION

Step 14: Placement of Containment

Barriers used for containment and their placement are determined in step 14

This determination is based on:

- Traffic patterns
- Debris removal
- Housekeeping needs fire codes



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THANK YOU FOR YOUR TIME

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