




APIC ORANGE COUNTY & COASTLINE CHAPTERS

15th Annual Day at the Beach

Infection Control Risk Assessment (ICRA) Healthcare Construction Tools for the I.P.



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The health and safety of every
patient, facility employee, and
construction worker is our
NUMBER ONE PRIORITY



To : 22333

Text : CHRISTAMARDA517

Once to join, then text your message.

Years of experience as an Infection Preventionist?

51₄83₃2₂

One word to best describe your field experience (hospital, nursing, long-term care, clinic, etc..)

hospital
above

What word best describes your working style?

proactive

clinic

prevention

mentoring

getter

pro-active

done

hospital

The best word that describes your first Construction meeting.

ugh confused
mare
crazynite terrifying
unorganized

One word, your surveyor is riding the elevator with your contractor.


uh-oh
nervous
ok 😨 oha-ok

One word that defines "Plenum"

hvac
dust
smoke dirty
problem hazard

One word that describes "Staphylococcus aureus"

lawsuit
dirty
scary
contagious
severe
air-mate



Surveillance?

A word cloud visualization of survey responses. The most prominent words are 'always', 'watching', and 'daily'. Other visible words include 'data', 'manual', 'endless', 'work', 'yuck', 'necessary', 'tedious', 'audit', 'painful', 'time', 'monitoring', 'watchdog', 'ugh', and 'watch'. The words are arranged in a roughly circular shape, with 'always' being the largest and most central.

What's your one-word goal for this session?

discussion
best practices
new learninginsite
knowledge
education

Thank You all for coming to the project kick-off meeting.

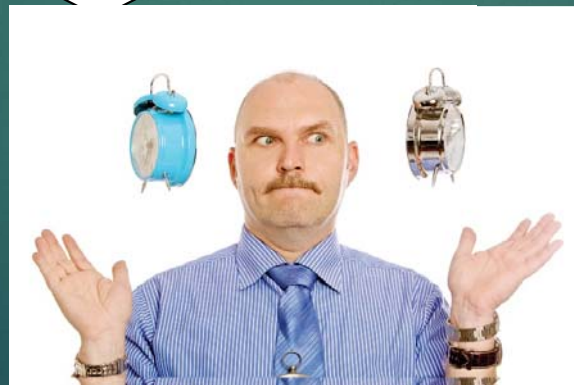


Does it require Infection Prevention measures?

As project manager I've decided to not tell you the purpose of the project. That way it will be harder for you to sabotage it.



Good Lord, NO we've been doing it this way as long as I've been here



Construction ICRA - Healthcare



- ▶ This 1-hour construction talk will discuss the importance of standard work practices and promote good communication throughout a construction project. We will discuss other potential risks associated with construction. This construction talk will focus on renovations and additions to occupied buildings.
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Construction ICRA - Healthcare



- ▶ How healthcare environments are unique
- ▶ The value of performing an orientation training and taking security steps
- ▶ Describe hazards in healthcare construction and understand the importance of awareness
- ▶ Discuss the ICRA permit process
- ▶ Identify containments, including hard and soft wall barriers, and best use for HEPA machines



Healthcare facilities often provide a variety of services to long-term care residents and hospital patients. Often they perform as a self-contained community.

During construction, work typically has to be performed around communities of patients and staff. Patients may be at risk of exposure to hazards associated with construction, especially activities that generate dust.

UNIQUE ENVIRONMENT

A green, fuzzy creature with large, round, metallic eyes. The creature is centered in the frame, with its body made of dense, bright green fur. Its eyes are large and circular, with a silver outer ring and a dark brown inner ring. The background is white, and there is a red rectangular shape in the top right corner.

UNIQUE ENVIRONMENT

contaminants released into the environment during a construction project:

Bacteria

Fungi

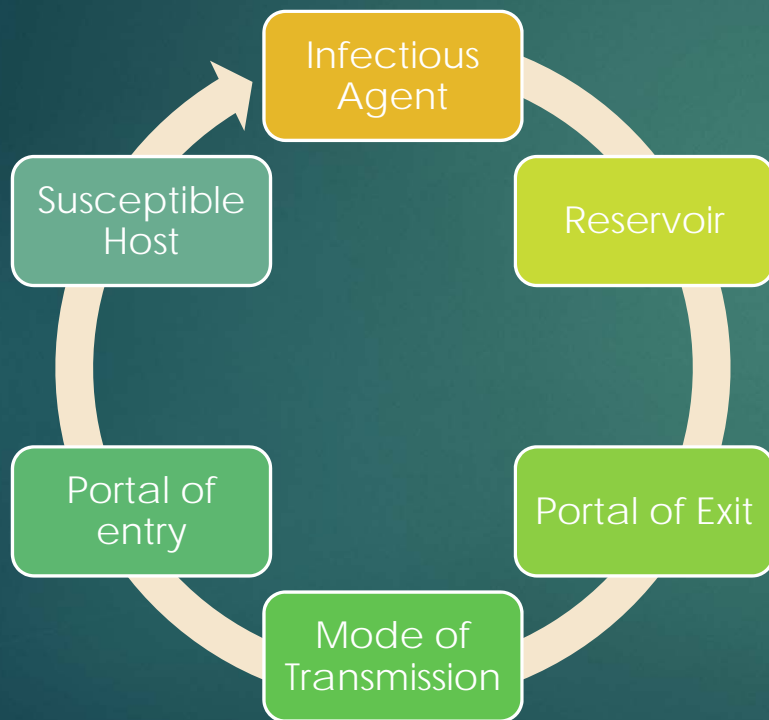
Mold

(3 things to grow food, moisture, air)

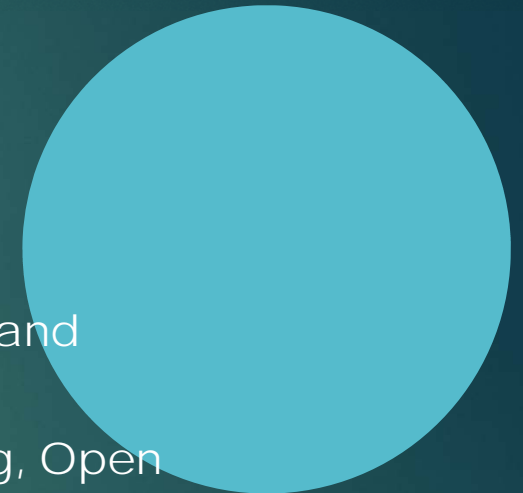
"Aspergillus"

Infectious agents live in reservoirs that are capable of transmitting disease.

Chain of Infection - Construction



- Mold
- Wall Cavity
- Demo
- Hands, Tools, Carts and Equipment
- Inhalation, Ingesting, Open Wound
- Immunocompromised



Orientation and Security

- Professionalism
- Break Areas
- Restricted Areas
- Safety Precautions
- Permits
- Emergency Phone Numbers
- Medical Codes
- Patient Privacy



ID Company
Logo

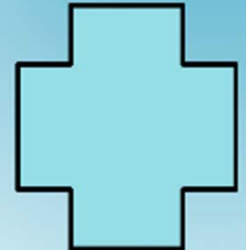
Company Name



Name Lastname

Designation

ID : EMP98234211



Hazards in Healthcare Construction

- ▶ **Lead** – found in pipes in older buildings, paint, and forms of radiation protection
- ▶ **Silica** – construction materials contain silica, for example: cement, gypsum board, and taping compound. A known carcinogen.
- ▶ **Asbestos** – found in fireproofing products, electrical and mechanical insulation



Hazards in Healthcare Construction

Biohazards – medical waste generated by medical procedures, Sharps containers, bodily fluids, and tissue

Chemicals – bonding agents, solvents, cleaning agents, adhesives, and different finished materials



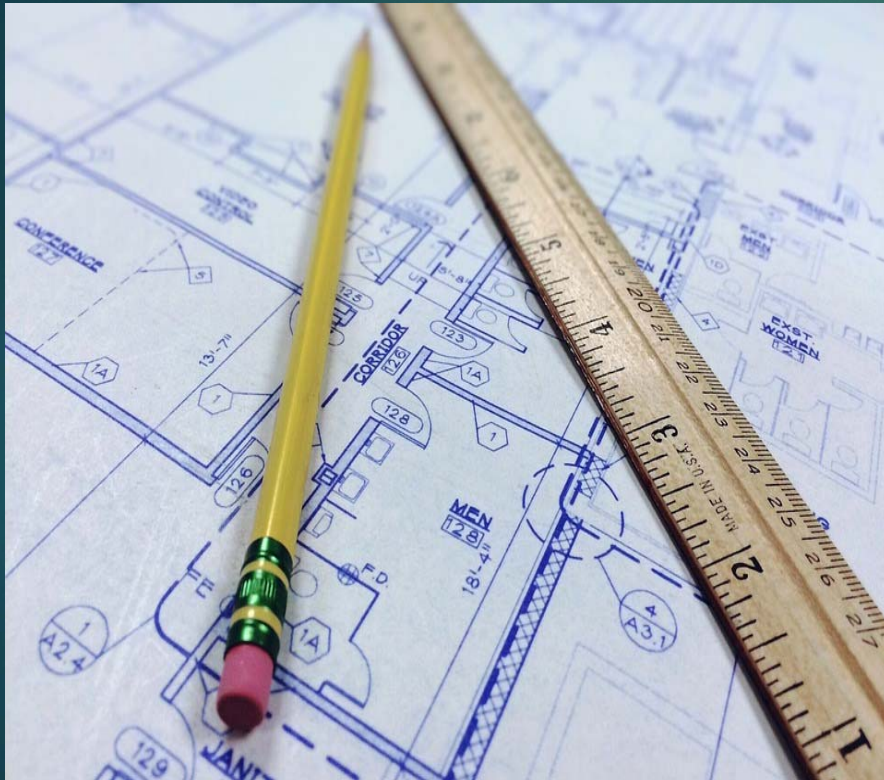
ICRA Permit

Infection Control Construction Permit

Location of Construction:		Permit No:			
Project Coordinator:		Project Start Date:			
Contractor Performing Work:		Estimated Duration:			
Supervisor:		Permit Expiration Date:			
		Telephone:			
YES	NO	CONSTRUCTION ACTIVITY	YES	NO	INFECTION CONTROL RISK GROUP
		TYPE A: Inspection, non-invasive activity			GROUP 1: Low Risk
		TYPE B: Small scale, short duration, moderate to high levels			GROUP 2: Medium Risk
		TYPE C: Activity generates moderate to high levels of dust, requires more than one work shift to complete			GROUP 3: Medium/High Risk
		TYPE D: Major duration and construction activities requiring consecutive work shifts			GROUP 4: Highest Risk
CLASS I		1. Execute work using methods to minimize raising dust from construction operations.			2. Immediately replace any ceiling tile displaced for visual inspection. 3. Minor demolition for remodeling.
CLASS II		1. Provides active means to prevent air-borne dust from dispersing into atmosphere. 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with duct tape. 4. Block off and seal air vents. 5. Wipe surfaces with disinfectant.			4. Contain construction waste in tightly covered containers before transport. 7. Wet mop and/or vacuum with HEPA-filtered vacuum before leaving work area. 8. Place dust mats at entrances and exits to work area. 9. Isolate HVAC systems in areas where work is being performed; restore when work completed.
CLASS III		1. Obtain infection control permit before construction begins. 2. To prevent contamination of the duct system, isolate HVAC system in area where work is being done. 3. Complete all critical barriers or implement control cube method before construction begins. 4. Maintain negative air pressure within work site utilizing HEPA-equipped air filtration units. 5. Do not remove barriers from work area until complete project is thoroughly cleaned by Environmental Services Department.			6. Vacuum work with HEPA-filtered vacuums. 7. Wet mop with disinfectant. 8. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 9. Contain construction waste in tightly covered containers before transport. 10. Cover transport receptacles or carts. Tape covering. 11. Upon completion, restore HVAC system where work was performed.
CLASS IV		1. Obtain infection control permit before construction begins. 2. To prevent contamination of the duct system, isolate HVAC system in area where work is being done. 3. Complete all critical barriers or implement control cube method before construction begins. 4. Maintain negative air pressure within worksite utilizing HEPA-equipped air filtration units. 5. Seal holes, pipes, conduits, and punctures appropriately. 6. Construct anteroom. Require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving worksite or they can wear cloth or paper coveralls that are removed each time they leave the work site.			7. All personnel entering work site are required to wear shoe covers. 8. Do not remove barriers from work area until completed project is thoroughly cleaned by the Environmental Service Department. 9. Vacuum work area with HEPA-filtered vacuums. 10. Wet mop with disinfectant. 11. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 12. Contain construction waste in tightly covered containers before transport. 13. Cover transport receptacles or carts. Tape covering. 14. Upon completion, restore HVAC system where work was performed.
Additional Requirements:					
Date:	Initials:	Date:	Initials:	Exceptions/Additions to this permit are noted by attached memoranda	
Permit Request By:		Permit Authorized By:			
Date:		Date:			



ICRA Permit – Step 1



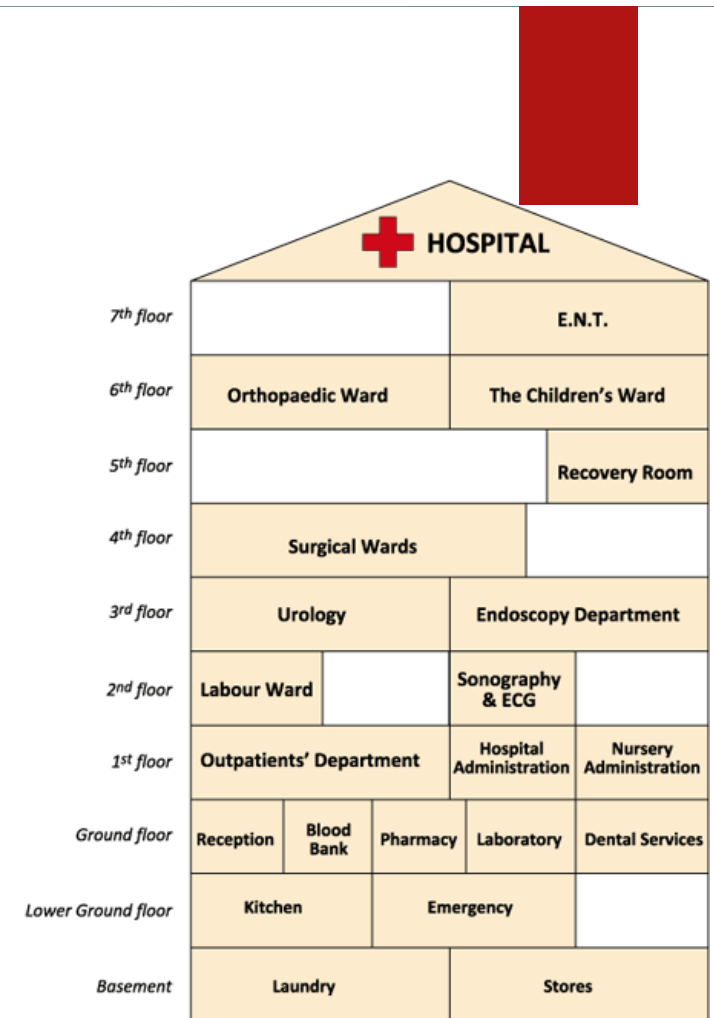
Project Type

- **Type A** – inspection and noninvasive activities
- **Type B** – small scale, short duration activities that create minimal dust
- **Type C** – work that generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies
- **Type D** – major demolition and construction projects

ICRA Permit – Step 2

Patient Risk Group

- Low Risk – office space
- Medium Risk – respiratory therapy, physical therapy, endoscopy, etc.
- High Risk – Coronary care, E.D., laboratories, surgical units, etc.
- Highest Risk – any area caring for immuno-compromised patients



patient risk to determine work area classification I, II, III, or IV.

ICRA Permit – Step 3

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
HIGH Risk Group	I	II	III/IV	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.

ICRA Permit – Classification



Required Infection Control Precautions

Each class of work has predetermined precautions that must be followed by all personnel working on the project.

<i>Description of Required Infection Control Precautions by Class</i>		
	During Construction Project	Upon Completion of Project
CLASS I	<ol style="list-style-type: none"> Execute work by methods that minimize raising dust from construction operations. Immediately replace a ceiling tile displaced for visual inspection. 	<ol style="list-style-type: none"> Clean work area upon completion of task.
CLASS II	<ol style="list-style-type: none"> Provide active means to prevent airborne dust from dispersing into atmosphere. Water mist work surfaces to control dust while cutting. Seal unused doors with tape. Block off and seal air vents. Place dust mats at entrances and exits of work areas. Remove or isolate HVAC system in areas where work is being performed. 	<ol style="list-style-type: none"> Wipe work surfaces with disinfectant. Contain construction waste in tightly covered containers before transport. Wet mop and/or vacuum with HEPA-filtered vacuum before leaving work area. Upon completion, restore HVAC system where work was performed.
CLASS III	<ol style="list-style-type: none"> Remove or isolate HVAC system in area where work is being done, to prevent contamination of duct system. Complete all critical barriers—for example, drywall, plywood, plastic—to seal area from nonwork area before construction begins. Or, implement control cube method with HEPA-filtered vacuum for vacuuming prior to exit. Maintain negative air pressure within work site utilizing HEPA-equipped air filtration units. Contain construction waste in tightly covered containers before transport. Cover transport receptacles or carts. Tape down covering unless cart has a solid lid. 	<ol style="list-style-type: none"> 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. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. Vacuum work area with HEPA-filtered vacuum. Wet mop area with disinfectant. Upon completion, restore HVAC system where work was performed.
CLASS IV	<ol style="list-style-type: none"> Isolate HVAC system in area where work is being done, to prevent contamination of duct system. 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. Maintain negative air pressure within work site utilizing HEPA-equipped air filtration units. Seal holes, pipes, conduits, and punctures. 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. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area. 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. 	<ol style="list-style-type: none"> Remove barrier material carefully to minimize spreading of dirt and debris associated with construction. Contain construction waste in tightly covered containers before transport. Cover transport receptacles or carts. Tape down covering unless cart has a solid lid. Vacuum work area with HEPA-filtered vacuum. Wet mop area with disinfectant. Upon completion, restore HVAC system where work was performed.



Step 4 Surrounding Project Area –

potential impact to room surrounding

Step 5 Identify Specific Site – project is recorded in

Step 6 Related Issues – all issues related to the mechanical systems

Step 7 Containment Measures – need for containment and whether it needs to be a hard or soft wall

ICRA PERMIT – STEPS 4-7

Step 8 Potential Risk of Water Damage – possible risk of compromising the structural integrity

Step 9 Work Hours – actual time the work will be conducted

Step 10 – 13 Facility design – building codes and regulatory areas

Step 14 Placement of Containment – barrier to be used and the placement to be recorded

ICRA PERMIT – STEPS 8-14





Hard Wall System – a sturdy enclosure built to be in place for an extended period of time. It helps to protect patients from potential construction hazards. Required for Class 3 and Class 4 work.

ICRA CONTAINMENTS

ICRA CONTAINMENTS



Anterooms – a contained area that divides the work area from the clean patient occupied area. They help to provide additional protection in highly sensitive areas. Anterooms are an addition to your barrier system.

HEPA machine – separate negative air chamber

HEPA vacuum – to vacuum off before exiting

PPA – patient protective apparel

Walk off mats....

Soft Wall Systems – constructed of 4 to 6 mil fire-resistant polyethylene sheeting. Typically constructed for projects that last a short duration.

Portable Cube – typically single person containment, used for various scopes of work, HEPA machine for negative air.

ICRA CONTAINMENTS



HEPA MACHINE

Documentation – service

Encapsulation – from the
transportation

ACH / CFMs – calculating
size of machine to the v





Baseline at start of project – helps to ensure the HEPA machine is controlling the contaminants in the air

Documentation – a quick tool to help track contaminants in the event there is a breach in the barrier

PARTICULATE
COUNTER

Questions?





Request Additional
Information Contact

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