

ICRA Standards for Healthcare Applications

Panel Discussion for ICRA and ICRA 2.0

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EXPERT PANELISTS



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ICRA 2.0 UPDATE

Moderator



Robert Booth, MPH, CIH
Senior Healthcare Consultant/
Infection Control Preventionist
Oncore Inc.

- 2020-2022 developed update with 10 other healthcare systems and experts
- One of the primary authors for ICRA 2.0 form and developer of ASHE ICRA Process Guide
- Developed Table 5: Precautions Section and Table 6: After construction requirements in ICRA 2.0

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SESSION OBJECTIVES



Describe key changes in ICRA 2.0 compared to ICRA



Understand the rationale behind why these changes were made.



Discuss the challenges and/or opportunities the newer version of ICRA offers if they are implemented.



Discover how you can comply with these industry standards.

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PANEL DISCUSSION FORMAT

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**Brief introduction to ICRA
2.0 Changes [5 minutes]**



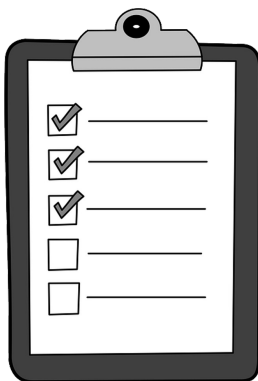
**6 Questions for panel
discussion [7 minutes each]**



**Questions from
audience**

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ICRA [1996]



**ICRA Form
and Permit**

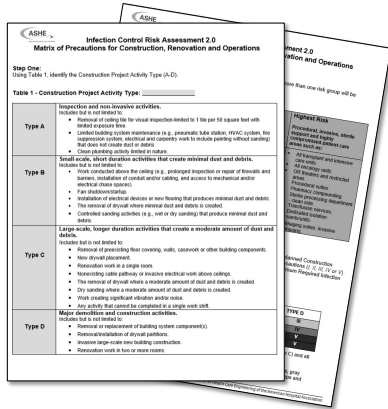
The previous ICRA version, while widely viewed as an effective framework, demonstrates gaps in both process and risk management planning.

The need to update this material was further supported by the advancements and complexity of modern health care construction and renovation.

Clarification of effective precautions was needed.

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HOW ICRA HAS CHANGED



- 4 to 5 classes of precaution.
- Standing orders for light work.
- References standards.
- Essential details around each class of precautions.
- Surrounding area guidance.
- What to do after the work is done.

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OLD AND NEW ICRA MATRICES

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

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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PRECAUTIONS + PLANNING

Table 5 - Minimum Required Infection Control Precautions by Class | Before and During Work Activity

Class of Precautions	Mitigation Activities (Performed Before and During Work Activity)
Class I	<ol style="list-style-type: none"> 1. Perform noninvasive work activity as to not block or interrupt patient care. 2. Perform noninvasive work activities in areas that are not directly occupied with patients. 3. Perform noninvasive work activity in a manner that does not create dust. 4. Immediately replace any displaced ceiling tile before leaving the area and/or at end of noninvasive work activity.
Class II	<ol style="list-style-type: none"> 1. Perform only limited dust work and/or activities designed for basic facilities and engineering work. 2. Perform limited dust and invasive work following standing precautions procedures approved by the organization. 3. This Class of Precautions must never be used for construction or renovation activities.
Class III	<ol style="list-style-type: none"> 1. Provide active means to prevent airborne dust dispersion into the occupied areas. 2. Means for controlling minimal dust dispersion may include hand-held HEPA vacuum devices, polyethylene plastic containment, or isolation of work area by closing room door. 3. Remove or isolate return air diffusers to avoid dust from entering the HVAC system. 4. Remove or isolate the supply air diffusers to avoid positive pressurization of the space. 5. If work area is contained, then it must be neutrally to negatively pressurized at all times. 6. Seal all doors with tape that will not leave residue. 7. Contain all trash and debris in the work area. 8. Nonporous/smooth and cleanable containers (with a hard lid) must be used to transport trash and debris from the construction areas. These containers must be damp-wiped cleaned and free of visible dust/debris before leaving the contained work area. 9. Install an adhesive (dust collection) mat at entrance of contained work area based on facility policy. Adhesive mats must be changed routinely and when visibly soiled. 10. Maintain clean surroundings when area is not contained by damp mopping or HEPA vacuuming surfaces.
Class IV	<ol style="list-style-type: none"> 1. Construct and complete critical barriers meeting NFPA 241 requirements including: Barriers must extend to the ceiling or, if ceiling tile is removed, to the deck above, and all penetrations through the barrier shall meet the appropriate fire rating requirements. 2. All (plastic or hard) barrier construction activities must be completed in a manner that prevents dust release. Plastic barriers must be effectively affixed to ground and ceiling and secure from movement or damage. Apply tape that will not leave a residue to seal gaps between barriers, ceiling or floor. 3. Seal all penetrations in containment barriers, including floors and ceiling, using approved materials (UL schedule freestop if applicable for barrier type). 4. Containment units or environmental containment units (ECUs) approved for Class IV precautions in small areas totally contained by the unit and that has HEPA-filtered exhaust air. 5. Remove or isolate return air diffusers to avoid dust entering the HVAC system. 6. Remove or isolate the supply air diffusers to avoid positive pressurization of the space. 7. Negative airflow pattern must be maintained from the entry point to the anteroom and into the construction area. The airflow must cascade from outside to inside the construction area. The entire construction area must remain negatively pressurized. 8. Maintain negative pressurization of the entire workspace by use of HEPA exhaust air systems directed outdoors. Exhaust discharged directly to the outdoors that is 25 feet or greater from entrances, air intakes and windows does not require HEPA-filtered air. 9. If exhaust is directed indoors, then the system must be HEPA filtered. Prior to start of work, HEPA filtration must be verified by particulate measurement as no less than 99.97% efficiency and must not alter or change airflow/pressure relationships in other areas. 10. Exhaust into shared or recirculating HVAC systems, or other shared exhaust systems (e.g., bathroom exhaust) is not acceptable. 11. Install device on exterior of work containment to continually monitor negative pressurization. To assure proper pressure is continuously maintained, it is recommended that the device(s) have a visual pressure indicator. 12. Contain all trash and debris in the work area.
Class V	<ol style="list-style-type: none"> 1. Construct and complete critical barriers meeting NFPA 241 requirements including: Barriers must extend to the ceiling, or if ceiling tile is removed, to the deck above, and all penetrations through the barrier shall meet the appropriate fire rating requirements. 2. All (plastic or hard) barrier construction activities must be completed in a manner that prevents dust release. Plastic barriers must be effectively affixed to ground and ceiling and secure from movement or damage. Apply tape that will not leave a residue to seal gaps between barriers, ceiling or floor. 3. Seal all penetrations in containment barriers, anteroom barriers, including floors and ceiling using approved materials (UL schedule freestop if applicable for barrier type). 4. Construct anteroom large enough for equipment staging, cart cleaning, workers. The anteroom must be constructed adjacent to entrance of construction work area. 5. Personnel will be required to wear disposable coveralls at all times during Class V work activities. Disposable coveralls must be removed before leaving the anteroom. 6. Remove or isolate return air diffusers to avoid dust entering the HVAC system. 7. Remove or isolate the supply air diffusers to avoid positive pressurization of the space. 8. Negative airflow pattern must be maintained from the entry point to the anteroom and into the construction area. The airflow must cascade from outside to inside the construction area. The entire construction area must remain negatively pressurized. 9. Maintain negative pressurization of the entire workspace using HEPA exhaust air systems directed outdoors. Exhaust discharged directly to the outdoors that is 25 feet or greater from entrances, air intakes and windows does not require HEPA-filtered air. 10. If exhaust is directed indoors, then the system must be HEPA filtered. Prior to start of work, HEPA filtration must be verified by particulate measurement as no less than 99.97% efficiency and must not alter or change airflow/pressure relationships in other areas. 11. Exhaust into shared or recirculating HVAC systems, or other shared exhaust systems (bathroom exhaust) is not acceptable. 12. Install device on exterior of work containment to continually monitor negative pressurization. To assure proper pressure is continuously maintained, it is recommended that the device(s) have a visual pressure indicator. 13. Contain all trash and debris in the work area. 14. Nonporous/smooth and cleanable containers (with a hard lid) must be used to transport trash and debris from the construction areas. These containers must be damp-wiped cleaned and free of visible dust/debris before leaving the contained work area. 15. Worker clothing must be clean and free of visible dust before leaving the work area anteroom. 16. Workers must wear shoe covers prior to entry into the work area. Shoe covers must be changed prior to exiting the anteroom to the occupied space (non-work area). Damaged shoe covers must be immediately changed. 17. Install an adhesive (dust collection) mat at entrance of contained work area based on facility policy. Adhesive mats must be changed routinely and when visibly soiled. 18. Consider collection of particulate data during work to monitor and ensure that contaminants do not enter the occupied spaces. Routine collection of particulate samples may be used to verify HEPA filtration efficiencies.

ICRA UPDATE [ICRA 2.0] MAJOR CHANGES



Team definition



Surrounding areas precautions

Precautions sections

1. Ventilation, exhausting, negative pressure
2. Monitoring negative air
3. Barrier controls [Introduction of NFPA 241]
4. HVAC system use and isolation
5. Use of particulate monitoring



Defining Patient Population

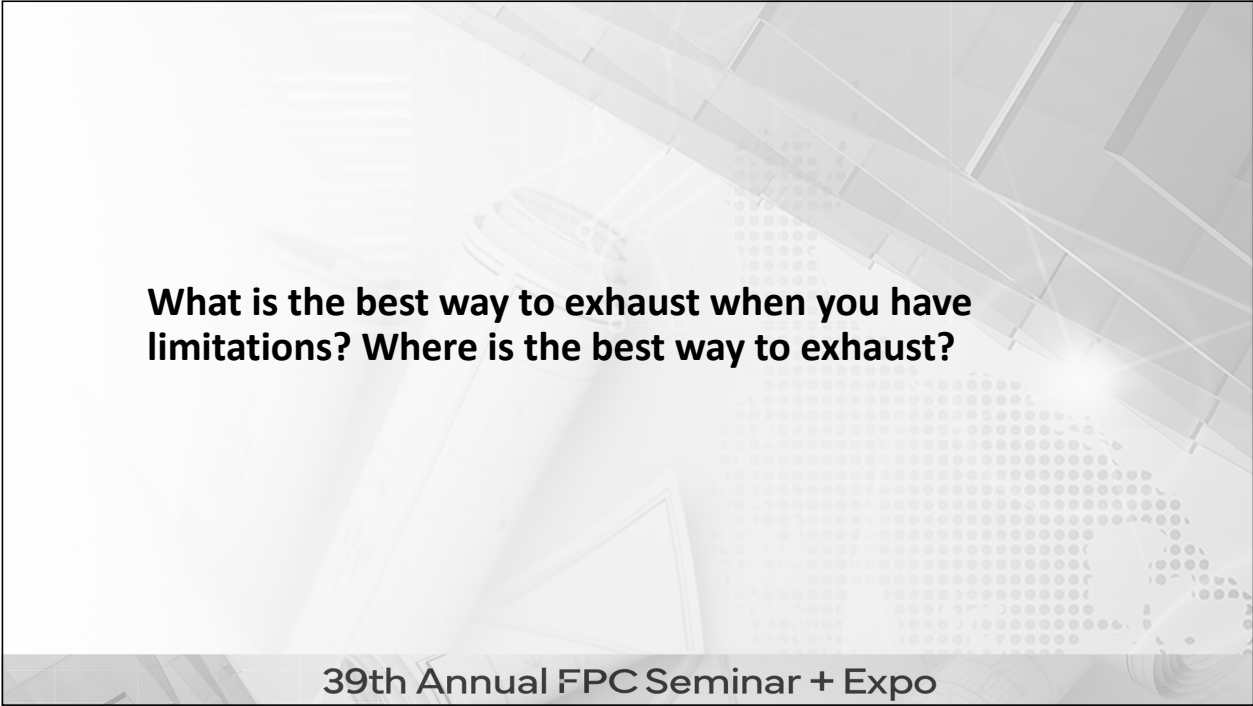
What does the panel think were the most significant impact to defining updated controls? (maybe the most significant updates to ICRA 2.0)

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How does the NEW Class II precautions category impact facilities management?

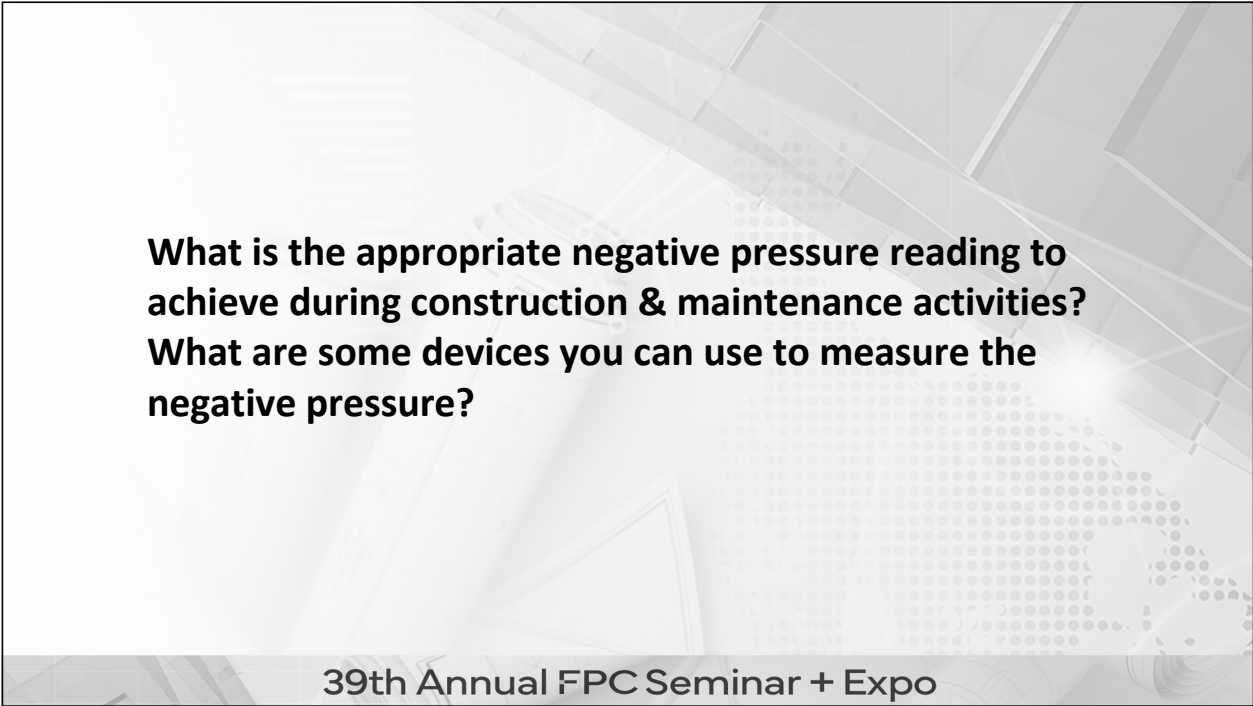
Class I & II: It is just limited dust and non-invasive activities; it is not used for Construction or Renovation Activities.

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What is the best way to exhaust when you have limitations? Where is the best way to exhaust?

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**What is the appropriate negative pressure reading to achieve during construction & maintenance activities?
What are some devices you can use to measure the negative pressure?**

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NFPA 241 requires barrier protection separating construction activities from occupied spaces

What are some acceptable temporary containment walls used in healthcare construction? What if they are not fire-rated?

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In Class IV & V of the ICRA 2.0 Matrix, the document recommends HEPA Filtration must be verified by particulate measurement as no less than 99.97 efficiency. What does this look like?

- **Does the contractor do the particulate measuring or the hospital?**
- **Do they have to particle count every machine?**
- **Is this only if you are exhausting indoors, or outside as well?**

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What are the biggest challenges with the newly defined Table 6-Items to complete at completion of construction?

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How does a contractor/architect/engineer/etc. deal with the inconsistencies in hospital policies?

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Q&A

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Get in Touch



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