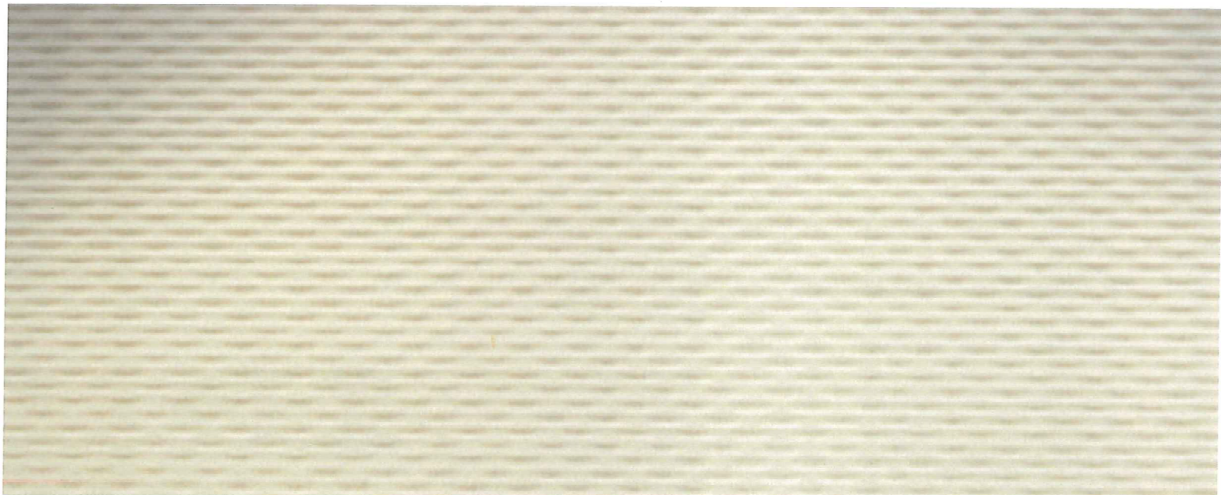


Infection Control Risk Assessment





CHAPTER 3: HEALTHY PROJECT

Infection Control Risk Assessment

INFECTION CONTROL RISK ASSESSMENT MATRIX OF PRECAUTIONS FOR CONSTRUCTION & RENOVATION

Purpose: This section is to be used for all renovation/construction projects. This is a preliminary review of the project to determine whether or not to perform a complete risk assessment for the project in question. If the project meets one of the criteria, it must be assessed for all areas in this Construction/Renovation Package listed in the adjacent column.

Project Name/Description

Phase

Permit No.

Construction Location

Project Coordinator

Contractor Performing Work

Supervisor

Project/Phase Start Date

Estimated Duration

Permit Expiration Date

Contractor's Phone No.

Project Description:

List site of activity (e.g., patient rooms, medication room).



The project will take longer than one shift (8 hours)



The project involves a vendor or contractor



The project involves the removal of more than 5 ceiling tile per 50 square feet.



The project is valued at more than \$20,000



Project involves the shutting down of one or more utility systems.



The project involves welding, brazing, torch cutting, sanding or grinding

This assessment must be completed if at least one of the above conditions exists.

Complete Assessment



Yes



No



This is a resource from *Health Well Done* by Cathy Dolan-Schweitzer. Learn more at www.healthwelldone.com/book/



CHAPTER 3: HEALTHY PROJECT
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Criteria for Project Application, Step 1:
PATIENT RISK GROUPS

Review the following Patient Risk Groups to identify the groups that will be affected by the project. If more than one group will be affected, select the higher-risk group.



Group 1: Low Risk

- Areas not on clinical units:
 - Public hallways and gathering areas
 - Office areas
 - Breakrooms
 - Bathrooms or locker rooms
 - Mechanical rooms
 - EVS closets



Group 2: Medium Risk

- Patient care support areas such as:
 - Waiting areas
 - Clinical engineering
 - Materials management
 - Sterile processing department–dirty side
 - Kitchen, cafeteria, gift shop, coffee shop and food kiosks



Group 3: High Risk

- Patient care areas such as:
 - Nuclear Medicine
 - Emergency Room
 - Labor & Delivery
 - Laboratories
 - Specimen Room
 - Newborn Nursery
 - Outpatient Surgery
 - Pediatrics
 - Pharmacy
 - Negative Pressure Isolation Rooms
 - Post-Anesthesia Care Unit
 - Medical Unit
 - Central Sterile Supply
 - Echocardiography
 - Patient care rooms and areas



Group 4: Highest Risk

- Any Area Where Immunocompromised Patients Receive Care
 - Burn Unit
 - CCU
 - Cardio Cath Lab
 - Intensive Care Units
 - Surgical Units
 - Oncology
 - Operating rooms
 - C-section rooms
 - Dialysis
 - Anesthesia
 - Endoscopy
 - Pharmacy compounding
 - All transplant and intensive care units

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Criteria for Project Application, Step 2:

CONSTRUCTION PROJECT ACTIVITY TYPE

From the activity categories listed below, select the type of activity that best represents the construction/renovation project. (Check only one.)



Type A: Inspection and non-invasive activities.

Includes, but is not limited to:

- Removal of ceiling tiles for visual inspection (limited to 1 tile per 50 square feet)
- Painting (but not sanding)
- Wallcovering, 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 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.
- Fan shutdown/startup



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 duct work 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 consecutive work shifts
- Heavy demolition or removal of a complete cabling system
- New construction - invasive or large scale
- Removal/installation of drywall partitions
- Removal or replacement of building system components

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CHAPTER 3: HEALTHY PROJECT
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Criteria for Project Application, Step 3a:

**PROJECT CLASS
DETERMINATION**

Using the matrix below, conduct a cross reference of the Patient Risk Group and Construction Project Type that apply to the project to determine the Class of Precautions (I, II, III, IV, or V) or level of infection control activities that will be required.

IC Matrix – Class of Precautions

		Construction Project Type			
		Type A	Type B	Type C	Type D
Patient Risk Group	Low Risk Group	Class I	Class II	Class II	Class III*
	Medium Risk Group	Class I	Class II	Class III	Class IV
	High Risk Group	Class I	Class III	Class IV*	Class V
	Highest Risk Group	Class III	Class IV*	Class V	Class V

*The determination of a Class III, Class IV or Class V designation is at the discretion of the Infection Control Officer.

Note: Infection control approval is required when the Construction Activity Type indicates that Class III, Class IV or Class V control precautions are necessary.

The Project Class for **Project Name** is **Project Class**

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REQUIRED INFECTION CONTROL PRECAUTIONS BY CLASS

Class I

During Construction Project

- 1 Perform non-invasive work activity as to not block or interrupt patient care
- 2 Execute work by methods to minimize raising dust from construction
- 3 Immediately replace any ceiling tiles displaced by visual inspections
- 4 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.

Upon Completion of Project

- 1 Wipe down work surfaces with disinfectant.
- 2 Wet mop and/or vacuum using a HEPA-filtered vacuum before leaving work area.
- 3 HVAC systems:
 - A Upon removal of critical barriers, remove isolation of HVAC systems in areas where work is being performed.
 - B Verify that HVAC systems are clean and operational.
 - C Verify that HVAC systems meet original airflow and air exchange design specifications.
- 4 Carefully remove barrier materials to minimize the spread of dirt and debris associated with construction.
- 5 Contain construction waste in tightly covered containers before transporting.

Class II

During Construction Project

- 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 duct tape.
- 4 Place dust mat at entrance and exit of work area.
- 5 This class of precautions must never be used for construction or renovations.

Upon Completion of Project

- 1 Wipe down work surfaces with disinfectant.
- 2 Wet mop and/or vacuum using a HEPA-filtered vacuum before leaving work area.
- 3 HVAC systems:
 - A Upon removal of critical barriers, remove isolation of HVAC systems in areas where work is being performed.
 - B Verify that HVAC systems are clean and operational.
 - C Verify that HVAC systems meet original airflow and air exchange design specifications.
- 4 Carefully remove barrier materials to minimize the spread of dirt and debris associated with construction.
- 5 Contain construction waste in tightly covered containers before transporting.

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REQUIRED INFECTION CONTROL PRECAUTIONS BY CLASS

Class III

During Construction Project

- 1 Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system.
- 2 Complete all critical barriers (e.g., sheetrock, plywood, and plastic) to seal area from non-work area, or implement control cube method (cart with plastic covering and sealing connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins.
- 3 Maintain negative air pressure within work site using HEPA-equipped air filtration units.
- 4 Nonporous/smooth and cleanable containers (with 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.
- 5 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.

Upon Completion of Project

- 1 Wipe down work surfaces with disinfectant.
- 2 Wet mop and/or vacuum using a HEPA-filtered vacuum before leaving work area.
- 3 HVAC systems:
 - A Upon removal of critical barriers, remove isolation of HVAC systems in areas where work is being performed.
 - B Verify that HVAC systems are clean and operational.
 - C Verify that HVAC systems meet original airflow and air exchange design specifications.
- 4 Carefully remove barrier materials to minimize the spread of dirt and debris associated with construction.
- 5 Contain construction waste in tightly covered containers before transporting.
- 6 Negative air requirements
 - A The use of negative air must be designed to remove contaminants from the work area.
 - B Negative air devices must remain operational at all times and in place for a period after completion of dust creating activities to remove contaminants from the work area and before removal of critical barriers.

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CHAPTER 3: HEALTHY PROJECT
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REQUIRED INFECTION CONTROL PRECAUTIONS BY CLASS (CONT'D)

Class IV

During Construction Project

- 1 Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system.
- 2 Complete all critical barriers (e.g., sheetrock, plywood, and plastic) to seal area from non-work area, or implement control cube method (cart with plastic covering and sealing connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins.
- 3 Maintain negative air pressure within work site using HEPA-equipped air filtration units.
- 4 Seal holes, pipes, conduits, and punctures appropriately. (UL Schedule firestop if applicable for barrier type.)
- 5 Construct anteroom and require all personnel to pass through it so they can be vacuumed using a HEPA-filtered vacuum cleaner before leaving work site. Or, personnel can wear cloth or paper coveralls and remove them upon leaving the worksite.
- 6 All personnel entering a worksite are required to wear shoe covers, which must be changed each time a worker exits the work area.
- 7 Do not remove barriers from work area until completed project has been inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Department.
- 8 Install device on exterior of work containment to continually monitor negative pressurization. To assure proper pressure is continually maintained, it is recommended that the device(s) have a visual pressure indicator.
- 9 Contain all trash and debris in the work area.

Upon Completion of Project

- 1 Carefully remove barrier materials to minimize the spread of dirt and debris associated with construction.
- 2 Removal of critical barriers
 - A Carefully remove screws and painter tape.
 - B If dust will be generated during screw removal, use hand-held HEPA vacuum.
 - C Drywall cutting is prohibited during removal process.
 - D Clean all stud tracks with HEPA vacuum before removing outer hard barrier.
 - E Use a plastic barrier to enclose area if dust could be generated.
- 3 Contain construction waste before transport in tightly covered containers.
- 4 Cover transport receptacles or carts. Tape covering unless solid lid.
- 5 Vacuum work area using HEPA-filtered vacuums.
- 6 Wet mop area with disinfectant.
- 7 Remove or isolate HVAC system in areas where work is being performed.
 - A Upon removal of critical barriers, remove isolation of HVAC systems in areas where work is being performed.
 - B Verify that HVAC systems are clean and operational.
 - C Verify that HVAC systems meet original airflow and air exchange design specifications.
- 8 Negative air requirements
 - A The use of negative air must be designed to remove contaminants from the work area.
 - B Negative air devices must remain operational at all times and in place for a period after completion of dust creating activities to remove contaminants from the work area and before removal of critical barriers.

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CHAPTER 3: HEALTHY PROJECT
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REQUIRED INFECTION CONTROL PRECAUTIONS BY CLASS (CONT'D)

During Construction Project

See Page 9 for Upon Completion of Project

Class V

- 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 firestop 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 and 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.

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CHAPTER 3: HEALTHY PROJECT
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REQUIRED INFECTION CONTROL PRECAUTIONS BY CLASS (CONT'D)

Upon Completion of Project

Class V

- 1 Carefully remove barrier materials to minimize the spread of dirt and debris associated with construction.
- 2 Removal of critical barriers
 - A Carefully remove screws and painter tape.
 - B If dust will be generated during screw removal, use hand-held HEPA vacuum.
 - C Drywall cutting is prohibited during removal process.
 - D Clean all stud tracks with HEPA vacuum before removing outer hard barrier.
 - E Use a plastic barrier to enclose area if dust could be generated.
- 3 Contain construction waste before transport in tightly covered containers.
- 4 Cover transport receptacles or carts. Tape covering unless solid lid.
- 5 Vacuum work area using HEPA-filtered vacuums.
- 6 Wet mop area with disinfectant.
- 7 Remove or isolate HVAC system in areas where work is being performed.
 - A Upon removal of critical barriers, remove isolation of HVAC systems in areas where work is being performed.
 - B Verify that HVAC systems are clean and operational.
 - C Verify that HVAC systems meet original airflow and air exchange design specifications.
- 8 Negative air requirements
 - A The use of negative air must be designed to remove contaminants from the work area.
 - B Negative air devices must remain operational at all times and in place for a period after completion of dust creating activities to remove contaminants from the work area and before removal of critical barriers.

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