



Title: Prevention of Construction or Maintenance Related Infectious Hazards	Policy No.: AF 5.5.6
	Pages: 21
Originator(s): Plant Operations and Maintenance / Facilities and Planning	Initial Issue Date: April 27, 2011
Owner: Redevelopment	Next Review Date: June 6, 2024
Key Words: construction, aspergillus-fungi, legionnaires disease, pneumonia, aspergillosis	Effective Date: June 7, 2023
Reviewed by: Policy Subcommittee (PSC)	Approved by: Operations Committee (OPS)

1.0 Purpose

If dust particles contaminated with bacteria and fungi are dispersed during construction, there may be health risks for client/patients, personnel and visitors. Early planning and a collaborative approach can prevent construction or maintenance related infections, and minimize allergen load and other workplace hazards.

This policy is intended to:

- identify the hospital population at risk for construction, renovation and maintenance related infectious hazards throughout the pre-construction, construction and post-construction phases;
- provide and maintain a protective environment for susceptible individuals, including client/patients, employees, physicians, volunteers, visitors and contractors through the use of preventative measures as outlined in the [Risk Assessment and Preventive Measures Checklist for Hospital Construction and Renovation](#); and
- prevent construction related infectious agents (e.g. Aspergillus, Legionella) from contaminating the environment, including the ventilation and water systems.

2.0 Persons Affected

This policy applies to any employee or agent of CAMH who is completing any type of construction, maintenance, millwork, or moving that creates dust (e.g., knocking down walls, moving ceiling tiles, drilling to access cables, creating shelving, etc.). This policy outlines particular roles for Infection Prevention and Control (IPAC), Plant Operations and Maintenance personnel, Facilities and Planning CAMH personnel, Redevelopment Office CAMH personnel, Manager of Health, Safety and Wellness, Director of the Risk Office, and contracted construction workers at each

of CAMH's main campuses (i.e., Queen Street (QS), College Street (CS), and Ursula Franklin Street (UFS) sites).

3.0 Policy

Infection prevention and control guidelines and standards will be adhered to during health care facility planning, design, construction, renovation, maintenance and repair within CAMH facilities. The goal is to eliminate any infectious risks where possible and minimize those risks that cannot be eliminated from agents released or augmented because of actions undertaken within the health care facility.

4.0 Definitions

Allergen Load: An individual's total allergic or chemical burden from exposure (Mosby, 2009).

Healthcare Associated Infection (HAI): A term relating to an infection that is acquired during the delivery of health care (previously referred to as Nosocomial Infection). Client/patient was not symptomatic or incubating at the time of admission.

Immunocompromised: An immune response that has been weakened by a disease or an immunosuppressive agent (Mosby, 2009).

Interdepartmental Project Team: The group of professionals responsible for collaborating on prevention of construction related Healthcare Associated Infections. The team, led by the Project Manager includes membership from Infection Prevention and Control, Plant Operations and Maintenance, Health, Safety and Wellness, and Quality and Patient Safety. Each member of the interdepartmental project team has the accountability for their respective areas of expertise and has the authority to stop construction if there is a significant failure to adhere to preventive measures.

STRIDES (Systematic Tracking & Review of Incidents: Disclosure for the Enhancement of Safety): CAMH's internal reporting system. STRIDES is an administrative management tool that gathers information for quality improvement, risk management and legal purposes. It is an internal document and is not part of the client/patient's health record. Incidents entered into STRIDES are categorized according to the level of severity.

5.0 Responsibilities

- 5.1 Project Manager (from Plant Operations and Maintenance, Facilities & Planning Department, or Redevelopment Office)
 - 5.1.1 Oversee and coordinate the activities of CAMH personnel and consultants involved in the construction project (including equipment installation/removal).
 - 5.1.2 Manage information flow among members of the interdepartmental project team.
 - 5.1.3 Decide who shall be represented at planning, design, construction, and commissioning meetings.
 - 5.1.4 Coordinate the completion of the Risk Assessment and Preventive Measures Checklist for Hospital Construction and Renovation.
 - 5.1.5 Ensure that contracted constructors have proof of awareness training in infection control during construction, renovation and maintenance in health care facilities.
 - 5.1.6 Conduct environmental sampling (i.e., dust, water, air) when and where required, and notify Infection Prevention and Control in case of any identified infectious biological agents (i.e., bacterial/fungal).
- 5.2 Infection Control Practitioner (ICP)
 - 5.2.1 Provide education to members of the interdepartmental project team regarding infection prevention and control measures related to construction.
 - 5.2.2 Participate in the interdepartmental project team throughout the construction project (i.e., design phase, pre-construction, during construction, post construction).
 - 5.2.3 Ensure appropriate preventive measures are adhered to prior to construction.
 - 5.2.4 Stop construction if there is a significant failure to adhere to preventive measures related to infection prevention and control.
- 5.3 Plant Operations and Maintenance Personnel (POM)
 - 5.3.1 Ensure risk assessment (determination of preventive measures) has been conducted prior to maintenance work.
 - 5.3.2 Ensure preventive measures are initiated and maintained throughout the duration of maintenance activities.
 - 5.3.3 Ensure work areas are free of visible dust/debris accumulation upon completion of scheduled work activities.

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- 5.3.4 Ensure materials are kept clean and dry during delivery and installation.
- 5.3.5 Coordinate with Contract Construction personnel to ensure that CAMH systems at the construction site are isolated from systems in occupied areas of CAMH to prevent contamination of air, water, and other systems.
- 5.3.6 Monitor and replace air system filters, if necessary during heavy construction, to maintain the design parameters of the air handling systems.
- 5.3.7 Stop construction if there is a significant failure to adhere to preventive measures.
- 5.4 Health, Safety and Wellness (HSW)
 - 5.4.1 Participate in the interdepartmental project team throughout the construction project (i.e., design phase, pre-construction, during construction, post construction).
 - 5.4.2 If there is a significant failure to adhere to preventive measures, the HSW Manager will stop construction in collaboration with stakeholders and the Joint Health Safety Committee (JHSC).
 - 5.4.3 Ensure that compliance with [Occupational Health and Safety Act \(OHSA\) \(1990\)](#) is met.
 - 5.4.4 Stop construction if there is a significant failure to adhere to preventive measures.
- 5.5 Director, Risk Office
 - 5.5.1 Participate in the interdepartmental project team throughout the construction project (i.e., design phase, pre-construction, during construction, post construction).
 - 5.5.2 Stop construction if there is a significant failure to adhere to preventive measures.
 - 5.5.3 Monitor relevant event and good catch (near miss) reporting (STRIDES) and ensure that supervisor follow-up is completed.
 - 5.5.4 As needed, engage the Quality, Safety & Patient/Family Experience Office when issues having client/patient safety implications arise.
- 5.6 Joint Health and Safety Committee (JHSC)
 - 5.6.1 Participate in site inspection of the construction/renovation area prior to occupancy.

5.7 Contract Construction Personnel

- 5.7.1 Supply, erect, and maintain integrity of all barriers between construction area and adjacent areas of CAMH.
- 5.7.2 Ensure the construction site ventilation system is maintained.
- 5.7.3 Keep contaminant generation at the construction site within applicable limits.
- 5.7.4 Ensure construction site is free from visible debris and/or otherwise unnecessary materials.
- 5.7.5 Account for the actions of their personnel and sub-trades.
- 5.7.6 Ensure that materials are kept clean and dry during delivery and installation.
- 5.7.7 Provide proof of infection control during construction, renovation and maintenance in health care facilities awareness training.

6.0 Procedures

6.1 General

- 6.1.1 The Project Manager (or project manager once assigned) will advise IPAC, HSW, and the Risk Office of any scheduled construction and renovation projects.
- 6.1.2 The Project Manager will implement the Risk Assessment and Preventive Measures Checklist for Hospital Construction and Renovation for all projects and will be included with all work orders and project assignments.
- 6.1.3 Departments/Programs that require service, as defined in the process algorithm for joint construction/renovation will inform Plant Operations/Facilities and Planning Department.
NOTE: Repairs requiring immediate action will be dealt with as an emergency situation.
- 6.1.4 The Project Manager will notify IPAC, HSW, and the Risk Office of any emergency repairs. This includes repairs causing disruption of water supply to client/patient care areas for more than 30 minutes.
- 6.1.5 During major capital projects, site reviews will be conducted on a regular basis, and as needed, with the Project Manager, construction representative, IPAC, HSW and the Risk Office. A written inspection report ([Appendix C](#)) from IPAC, HSW and the Risk Office to the Project Manager will be provided, as needed.

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6.1.6 Prior to occupancy, a site inspection of the construction/renovation area will be performed by the Project Manager, Department Manager, worker member of JHSC for the site, IPAC, HSW, and the Risk Office.

6.2 Construction, Renovation and Maintenance

6.2.1 Pre-Construction Phase

6.2.1.1 The Project Manager requesting service will notify IPAC, HSW, and the Risk Office of any scheduled construction/renovation (including equipment installation/removal) projects by forwarding the following 30 days prior to the project start date unless emergency repairs:

- a Risk Assessment and Class Construction Checklist for Hospital Construction and Renovation; and
- architects drawings and specifications (if available) or a brief description.

6.2.1.2 IPAC and HSW will liaise with the Project Manager to determine the infection and occupational risks of all persons at CAMH.

6.2.1.3 IPAC, HSW and the Risk Office will review the checklist and confirm the construction class and risk group.

6.2.1.4 Procedures outlined in [Appendix D](#) will be followed depending on the class and risk group criteria.

6.2.1.5 The Project Manager will follow all recommended preventative measures by IPAC, HSW, the Risk Office (including possible temporary relocation of personnel and clients/patients, use of personal protective equipment, etc.)

6.2.1.6 The Project Manager will communicate recommendations to the following:

- manager of the department requiring service;
- contractors and vendors;
- trades personnel involved; and/or
- site specific JHSC.

6.2.1.6.1 The recommendations may be communicated by the following methods:

- written, verbal and /or electronic communication; and/or

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- posted signage in the hospital and/or the construction/renovation area.

6.2.1.7 Prior to and during construction, the Project Manager, IPAC, HSW, or the Risk Office reserve the right to conduct inspections to determine if the recommended preventative measures are met.

6.2.1.8 IPAC, HSW, or the Risk Office may communicate as required (regarding the hospital construction/renovation-related health risks for patients and care providers) to contractors and other relevant personnel by educational in-service prior to the project start.

6.2.2 Construction Phase

6.2.2.1 The Project Manager will oversee the construction personnel through regularly scheduled site visits until the construction phase is completed. Relevant members of interdepartmental project team can also be included as needed. The oversight is completed to ensure that construction personnel complete responsibilities, including:

6.2.2.1.1 maintain air systems serving the hospital and the construction/renovation area as outlined in the recommendations for the Class of construction activity ([Appendix D](#));

6.2.2.1.2 observe the appropriate precautions when leaving the construction/renovation zone ([Appendix D](#));

6.2.2.1.3 clean the construction /renovation zone and adjacent areas regularly as specified in the contract ([Appendix D](#));

6.2.2.1.4 transport and dispose of construction debris along designated routes ([Appendix D](#));

6.2.2.1.5 send out a warning advisory to any affected area(s) in the event of an (known) accidental contamination of the ventilation and or/water systems, in order to prevent any associated risks; and

6.2.2.1.6 remediate immediately any damage caused by flooding, sewage backup, steam leaks, ground

water infiltration or power interruptions during construction or after floods.

6.2.3 Post-Construction Phase

6.2.3.1 The Project Manager will oversee the construction personnel through regularly scheduled site visits until the post-construction phase is completed. Relevant members of interdepartmental project team can also be included as needed. The oversight is completed to ensure that construction personnel perform responsibilities, including:

6.2.3.1.1 assess the air system serving the construction/renovation zone at the end of the project to determine cleaning requirements prior to use;

6.2.3.1.2 flush all water systems thoroughly prior to use. Disinfect as needed; and

6.2.3.1.3 thoroughly clean the construction/renovation zone prior to occupancy, as specified in [Appendix D](#).

6.2.3.2 Prior to occupancy, the Project Manager will schedule a final site inspection with the IPAC, HSW, and the Risk Office; JHSC will be informed. The Project Manager, IPAC, HSW, and the Risk Office are responsible for the final site inspection where determined appropriate. If construction is more than 30 days, inspection team will include worker members from site JHSC.

6.2.3.3 The Project Manager, IPAC, HSW, and the Risk Office will evaluate the effectiveness of the infection prevention and control, and occupational health and safety measures; identify deficiencies, and make recommendations for future improvements.

7.0 References

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8.0 Links/Related Documents

8.1 Related Policies, Procedures, Medical Directives and Delegations
N/A.

8.2 Related Forms
N/A.

8.3 Other Resources
Appendix A – [Risk Assessment and Preventive Measures Checklist for Hospital Construction and Renovation](#)
Appendix B – [Infection Control Inspection Form](#)
Appendix C – [Preventative Measures Analysis](#)
Appendix D – [Class I, II, III, & IV Procedures](#)
CSA Standards Tables 2 and 3 available through Manager, Plant Operations and Maintenance

9.0 Review/Revision History

Date	Revision No.	Revision Type (minor edit, moderate revision, complete revision)	Reference Section(s)
2006	1.0	New policy	<ul style="list-style-type: none"> N/A; internal to Plant Operations and Maintenance.
April 2011	2.0	Complete revision	<ul style="list-style-type: none"> Reformat; new forms and procedures; moved from internal to centre-wide policy.



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Date	Revision No.	Revision Type (minor edit, moderate revision, complete revision)	Reference Section(s)
October 2014	3.0	Minor edit	<ul style="list-style-type: none">Changes in provincial legislation affecting Procedures.
February 2018	4.0	Minor edit	<ul style="list-style-type: none">Updated review authorities.Sec. 5.4.2: Addition to responsibilities of HSW Manager.Removal of Appendix A: Background.
October 2019	5.0	Minor edit	<ul style="list-style-type: none">Removed definitions for Aspergillus and Legionella and minoring formatting for consistency.
September 2020	5.1	Minor edit	<ul style="list-style-type: none">Changed SCORE references to STRIDES to reflect new name of incident reporting system.
May 2021	6.0	Minor edit	<ul style="list-style-type: none">Hyperlinks revised/fixed.Ascribed responsibilities previously aligned with QPS to the Risk Office.Minor wordsmithing.
June 2022	7.0	Minor edit	<ul style="list-style-type: none">Added definition for Healthcare Associated Infection and removed reference to Nosocomial Infection from Section 4.0.Added conditional language to Section 5.1.6.
June 2023	8.0	Reviewed with no substantive changes	<ul style="list-style-type: none">Changed Owner from POM to Redevelopment.

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Appendix A – Risk Assessment and Prevention Measures Checklist for Hospital Construction and Renovation

Location of Construction:	Project Start Date (yy/mm/dd):	Estimated Duration:
Facilities Coordinator/Maintenance Supervisor Name	Contractor(s): 1. 2.	Infection Prevention and Control:
Phone Number: _____	Contractor's Phone Number: _____	Health, Safety and Wellness:
		Phone No.: _____
		HSW Phone No.: _____

Construction Activity (see Part A)	Population Risk Group (see Part B)
Type A: Inspection, non-invasive activities.	Group 1: Lowest Risk
Type B: Small scale, short duration, minimal dust generating activities.	Group 2: Medium Risk
Type C: Activities generating moderate-high levels of dust, requires more than one work shift to complete.	Group 3: Medium to High Risk
Type D: Activities generating high levels of dust, major demolition and construction activities requiring consecutive shifts to complete.	Group 4: Highest Risk

Part C: Construction Classification and Risk Group Matrix Class of Preventative Measures				
Risk Level	Type "A"	Type "B"	Type "C"	Type "D"
Group 1	I	II	II	III/IV
Group 2	I	II	III	IV
Group 3	I	III	III/IV	IV
Group 4	III	III/IV	III/IV	IV

Summary: Construction Activity: _____

Population Risk Group: _____

Class of Prevention Measures: _____

Once the Class of Preventative Measures is determined, refer to Schedule II of the CAMH Infection Control Policy and Procedures for step-by-step procedures for Class I, II, III and IV preventative measures.

Appendix B – Infection Control Inspection Form

Project: _____ Date: _____
 Location: _____ Department: _____
 Inspector: _____ Contractor: _____
 Start Date: _____
 Duration: _____

CONSTRUCTION ACTIVITY

1. Type A Inspection Non Invasive Activity
2. Type B Small Scale, Short Term Moderate Level of Dust –
3. Type C Activity Generates Moderate to High Levels of Dust, Requires Greater Than 1 Work Shift –
4. Type D Major Duration and Construction Activities Requiring Consecutive Work Shifts –

RISK CLASSIFICATION AS PER CSA STANDARD 317-13-07

1. Class I
2. Class II
3. Class III
4. Class IV

POSTINGS

1. Infection Control Permit
2. Personnel Documentation
 - a. Training Certificates
 - b. Fit Tests
3. Caution Signs

PERSONNEL ANTI-ROOM

1. Decon. Built
2. Lockable Door
3. Proper Airlocks
 - a. Three Flaps
 - b. Three Feet Deep
 - c. Weighted at Bottom
4. Clean Room
 - a. PPE Supplies
 - b. Benches, Hooks, Lockers
 - c. Disposable Coveralls
 - d. Disposable Booties
5. Equipment Room
 - a. Replacement Filters
 - b. Lined Waste Drum
6. Decon. Construction
 - a. 6 mil Poly on Walls
 - b. 6 mil R/P reinforced poly on floor
7. Daily Cleaning of Decon.

INFECTION CONTROL SPECIFIC

- | | | |
|--------------------------|------------------------------------|--------------------------|
| <input type="checkbox"/> | a. Walk off Mats | <input type="checkbox"/> |
| <input type="checkbox"/> | b. Worker Access and Egress Routes | <input type="checkbox"/> |
| <input type="checkbox"/> | c. Disposal Routes and Times | <input type="checkbox"/> |
| <input type="checkbox"/> | d. Medical Gas Line Contingency | <input type="checkbox"/> |
| <input type="checkbox"/> | e. Sealed Waste Transfer Bin | <input type="checkbox"/> |

WORK AREA PREPARATION

- | | | |
|--------------------------|--|--------------------------|
| <input type="checkbox"/> | 1. Heating Ventilation Air Conditioning | <input type="checkbox"/> |
| | a. Isolation Form Work Area – cut/cap | <input type="checkbox"/> |
| <input type="checkbox"/> | 2. Movable Objects Removed From Area | <input type="checkbox"/> |
| <input type="checkbox"/> | 3. Fixed Objects/Pre-cleaning of Work Area | <input type="checkbox"/> |
| | a. HEPA Vacuumed | <input type="checkbox"/> |
| <input type="checkbox"/> | b. Two Layers Poly Sealed With Tape | <input type="checkbox"/> |
| <input type="checkbox"/> | 4. Isolation Barriers Over all Openings | <input type="checkbox"/> |
| | a. Two Layers Poly Sealed With Tape | <input type="checkbox"/> |
| <input type="checkbox"/> | 5. Isolation Barriers Separating Work Area | <input type="checkbox"/> |
| | a. 1/2 Inch Drywall Hoarding | <input type="checkbox"/> |
| <input type="checkbox"/> | b. Sealed Seams Made Airtight | <input type="checkbox"/> |
| | c. Work Area Poly Sealed | <input type="checkbox"/> |
| <input type="checkbox"/> | 6. Poly/Sealed | <input type="checkbox"/> |
| | a. Floors 6 mil R/P Poly Applicable Layers | <input type="checkbox"/> |
| <input type="checkbox"/> | b. Walls 6 mil Poly Applicable Layers | <input type="checkbox"/> |
| | c. Ceiling (where required) | <input type="checkbox"/> |
| <input type="checkbox"/> | d. 12" overlapping Floors/Walls | <input type="checkbox"/> |
| <input type="checkbox"/> | 7. Emergency Exits Established | <input type="checkbox"/> |
| <input type="checkbox"/> | 8. Elevator Isolation | <input type="checkbox"/> |

ENGINEERING CONTROLS

- | | | |
|--------------------------|--|--------------------------|
| <input type="checkbox"/> | 1. Negative Air Pressure -min. 0.02" or 0.03" w.c. | <input type="checkbox"/> |
| | a. Four Air Changes per Hour | <input type="checkbox"/> |
| | b. Continuous Operation | <input type="checkbox"/> |
| | c. Exhausted to Outside of Building | <input type="checkbox"/> |
| <input type="checkbox"/> | 2. In place DOP performance testing of Neg. Air | <input type="checkbox"/> |

MATERIALS & EQUIPMENT

- | | | |
|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | 1. Waste Containers & Bags | <input type="checkbox"/> |
| | a. Properly Labeled | <input type="checkbox"/> |
| | b. Min. 6mil. Thickness | <input type="checkbox"/> |
| <input type="checkbox"/> | 2. Ladders & Scaffolds | <input type="checkbox"/> |
| | a. Available to Authorized Visitors | <input type="checkbox"/> |
| <input type="checkbox"/> | 3. Respirators and PPE Equipment | <input type="checkbox"/> |
| | a. Available to Authorized Visitors | <input type="checkbox"/> |



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AIR MONITORING

- a. Background prior to start During Work in
- b. Decon
- c. Perimeter
- d. Clearance in work area

☐
☐
☐
☐

REGULATIONS/GUIDELINES

- a. Specification Compliance
- b. Reg./Guideline/Standard compliance

☐
☐

GENERAL SAFETY

- a. Risk Assessment Performed & Posted
- b. Fall Arrest Equipment Available
- c. Fire Protection Established

☐
☐
☐

NOTES:

Appendix C
Table 1 – Preventative Measures Analysis
(See Clauses, 3.1, 6.51, 6.52, 7.1, 7.2.4.2, 7.5.3.1)

Population Risk Group (from Table 2)	Construction Activity Type (from Table 3)			
	Type “A”	Type “B”	Type “C”	Type “D”
Group 1	I	II*	II	III/IV
Group 2	I	II*	III	IV
Group 3	I	III*	III/IV	IV
Group 4	I – III	III/IV	III/IV	IV

Denotes where a lower level might be used in accordance with Clause 7.5.

Table 2 – Population Risk Groups and Geographical Area
(See Clauses 5.3.2.4, 6.3.8.1, 7.3.3.5 and 8.3.1.26 and Table 1)

Population risk group	Typical areas
Group 1 Lowest risk	Office areas (i.e., non-clinical)
	Unoccupied patient care units
	Public areas not intersecting a patient care area
	Laundry and soiled linen sorting or storage areas
	Physical plant workshops
	Housekeeping rooms and closets
Group 2 Medium risk	Patient care areas, unless listed in Group 3 or Group 4
	Outpatient clinics (except oncology and surgery)
	Admission and discharge units

	Waiting rooms
	Autopsy and morgue
	Occupational therapy and physical therapy areas remote from patient care areas
Group 3 Medium to high risk	Emergency (except trauma rooms)
	Diagnostic imaging
	Labour and birthing rooms (without operating room capability)
	Nurseries for healthy newborns
	Nuclear medicine
	Hydrotherapy
	Echocardiography
	Laboratories
	General medical and surgical wards or units (includes all areas including soiled and clean utility rooms)
	Pediatric units
	Geriatric units
	Long-term care units
	Food preparation, serving, and dining areas
	Respiratory therapy
	Clean linen handling and storage areas
Group 4 Highest risk	Intensive care units (ICU, PICU, NICU, etc.)
	Operating rooms (including prep, induction, post-anaesthetic care unit (PACU), and scrub areas)
	Anaesthesia storage areas and workrooms
	Oncology units and outpatient clinics
	Transplant units and outpatient clinics
	Inpatient units and outpatient clinics for patients with AIDS or other immunodeficiency diseases
	Dialysis units
	Critical care nurseries
	Labour and delivery operating rooms

Population risk group	Typical areas
	<p>Interventional or high-risk diagnostic imaging, e.g.,</p> <ul style="list-style-type: none"> • Cardiac catheterization and angiography • Interventional radiology • Endoscopy • Bronchoscopy • Cystoscopy <p>Cardiovascular and cardiology patient areas</p> <p>Pharmacy admixture rooms</p> <p>Medical device reprocessing areas (wherever located)</p> <p>Central sterile supply</p> <p>Clean and sterile storage</p> <p>Burn care units</p> <p>Animal rooms</p> <p>Trauma rooms</p> <p>Protective isolation rooms</p> <p>Tissue culture laboratories</p> <p>Pacemaker insertion rooms</p> <p>Dental procedure rooms</p>

Table 3 – Construction Activity Type
(See Clauses 3.1, 6.3.8.1, 6.5.2, and 7.5.3.1 and Table 1)

Construction activity type	Description
Type A	<p>Inspection and non-invasive activities. These include, but are not limited to,</p> <ul style="list-style-type: none"> a) activities that involve a single controlled opening in a wall or ceiling for minor work or visual inspection, that is accessed by <ul style="list-style-type: none"> i) removing no more than one ceiling tile; or ii) opening of an access panel on a wall or ceiling; b) painting (but not sanding) and wall covering; c) electrical trim work; d) minor plumbing work that disrupts the water supply to a localized patient care area (i.e., one room) for less than 15 min; and e) other maintenance activities that do not generate dust or require cutting of walls or access to ceilings, other than as specified in Item a).
Type B	<p>Small-scale, short-duration (e.g., less than 2 h) activities that create minimal dust. These include, but are not limited to,</p> <ul style="list-style-type: none"> a) activities involving access to and use of chase spaces; b) cutting a small opening in a contained space where dust migration can be controlled, e.g., cutting of walls or ceilings to provide an access point for installing or repairing minor electrical work, ventilation components, telephone wires, or computer cables; c) sanding or repair of a small area of a wall; and d) plumbing work that disrupts the water supply of one or more patient care areas for less than 30 min.
Type C	<p>Activities that generate a moderate to high level of dust, cause a moderate service disruption, require demolition, require removal of a fixed facility component (e.g., a sink) or assembly (e.g., a countertop or cupboard), or cannot be completed in a single work shift. These include, but are not limited to,</p> <ul style="list-style-type: none"> a) activities that require sanding of a wall in preparation for painting or wall covering; b) removal of floor coverings, ceiling tiles, and casework; c) new wall construction; d) minor ductwork; e) electrical work above ceilings; f) major cabling activities; and g) plumbing work that disrupts the water supply of one or more patient care areas for more than 30 min, but less than 1 h.
Type D	<p>Activities that generate high levels of dust, activities that necessitate significant service disruptions, and major demolition and construction activities requiring consecutive work shifts to complete. These include, but are not limited to,</p> <ul style="list-style-type: none"> a) soil excavation; b) new construction that requires consecutive work shifts to complete; c) activities that involve heavy demolition or removal of a complete cabling system; or d) plumbing work that disrupts the water supply of more than one patient care area (i.e., two or more rooms) for 1 h or more.

Appendix D – Class I, II, III, IV Procedures



Revised April 1, 2013

Procedures for
Class I – Yellow

Construction Activity/Population Risk Group: A1, A2, or A3.

General Set-up Requirements: Polyethylene drop sheet (i.e., no enclosure).

Protective Clothing Requirements: None.

Pre-Construction Activities

1. Review area of work and confirm that Class I – Yellow is appropriate for the type of work to be performed and population present in adjacent areas.
2. Inform appropriate hospital personnel in work area of scope of work and potential impact on area.
3. Establish traffic pattern for workers and debris removal with hospital personnel.
4. Identify any additional activities that may be necessary to safely perform work and take appropriate measures. This may include relocation of patients or disruption of ventilation, electrical or plumbing systems.
5. Ensure all necessary equipment & materials for set-up, work and clean-up activities are present.

Set-up Activities

1. Put down and secure polyethylene sheeting in area of work.
2. Adequately separate work area from other hospital areas with caution tape, etc.

Work Activities

1. Perform work during periods of low user activity.
2. Perform work activities in a manner that will minimize debris generation.
3. Remove ceiling tile or open hatch for inspection/work and visually inspect for signs of moisture damage/mold growth. If mold growth is suspected, stop work and advise supervisor.
4. Clean accessible surfaces above ceiling of any settled dust and debris using a HEPA vacuum and/or clean, damp rags prior to performing any work that may disturb this material.
5. If applicable, immediately place debris in polyethylene bag for disposal or HEPA vacuum debris created by removing ceiling tile or opening access panel.

Clean-up Activities

1. Replace ceiling tile or close access hatch.
2. Clean all tools/equipment of debris using HEPA-vacuum and/or damp rags or seal in a polyethylene bag for transport to next location.
3. Clean any debris on floor and polyethylene drop sheet with HEPA-vacuum.
4. Clean any debris from clothing and bottom of shoes using HEPA-vacuum.
5. Remove polyethylene drop sheets.
6. Seal all debris (including drop sheets) within polyethylene bags.
7. Clean floor around work area with a clean and damp mop and/or HEPA-vacuum.
8. Remove debris following pre-established route.



Revised April 1, 2013

Procedures for
Class II – Orange

Construction Activity/Population Risk Group: B1, B2, or C1.

General Set-up Requirements: Isolate room or temporary/portable enclosure to false ceiling.

Protective Clothing Requirements: None.

Pre-Construction Activities

1. Review area of work and confirm that Class II – Orange is appropriate for the type of work to be performed and population present in adjacent areas.
2. Inform appropriate hospital personnel in work area of scope of work and potential impact on area.
3. Establish traffic pattern for workers and debris removal with hospital personnel.
4. Identify any additional activities that may be necessary to safely perform work and take appropriate measures. This may include relocation of patients or disruption of ventilation, electrical or plumbing systems.
5. Ensure all necessary equipment and materials for set-up, work and clean-up activities are present.

Set-up Activities

1. Disable ventilation system (supply/return), if practicable.
2. Seal ventilation system (i.e. supply/return) if located in immediate work area.
3. Seal any windows, unused doors or other openings inside work area with construction grade tape.
4. Put down and secure polyethylene sheeting in area of work.
5. Construct polyethylene-curtained doorway at entrance to work area.
6. Construct airtight temporary enclosure or erect portable enclosure where dust migration cannot be controlled (i.e. corridor).
7. Place walk-off mat outside entrance to work area.
8. Adequately separate work area from other hospital areas with caution tape, etc. Put down and secure polyethylene sheeting in area of work.
9. Adequately separate work area from other hospital areas with caution tape, etc.

Work Activities

1. Lightly mist area of ceiling/wall if cutting is required for access.
2. Immediately place debris created to gain access into ceiling/wall in polyethylene bag for disposal.
3. Access ceiling/wall space for inspection/work and visually inspect for signs of moisture damage/mold growth. If mold growth is suspected, stop work and advise supervisor.
4. Clean accessible surfaces above ceiling of any settled dust & debris using a HEPA-vacuum and/or clean, damp rags prior to performing any work that may disturb this material.
5. Lightly mist area of work if activities have the potential to create dust.
6. Perform work activities in a manner that will minimize debris generation.
7. Place any debris created during work into polyethylene bags for disposal.
8. Continually inspect work area isolation or enclosure for integrity and stop work/repair if integrity is lost.

Clean-up Activities

1. Seal ceiling/wall space as required (replace tiles/temporarily seal/repair).
2. Clean debris from floors and walls of isolated work area using HEPA-vacuum and/or clean, damp rags.
3. Clean all tools/equipment of debris using HEPA-vacuum and/or damp rags or seal in a polyethylene bag for transport to next location.
4. Clean any debris from clothing and bottom of shoes using HEPA-vacuum and clean bottom of shoes using walk-off mats when exiting enclosure.
5. Remove temporary/portable enclosure, if applicable, and other materials (tape, walk-off mats, etc.) and seal all debris within polyethylene bags.
6. Clean floor around work area with a clean and damp mop and/or HEPA-vacuum.
7. Remove debris following pre-established route.
8. Re-establish ventilation system if required.



Revised April 1, 2013

Procedures for
Class III – Blue

Construction Activity/Population Risk Group: A4, B3, B4, C2, C3, C4, or D1.

General Set-up Requirements: Temporary or portable enclosure to false ceiling and upper seals from false ceiling to true ceiling.

Protective Clothing Requirements: Dust impermeable suits (such as Tyvek).

Pre-Construction Activities

1. Review area of work and confirm that Class III – Blue is appropriate for the type of work to be performed and population present in adjacent areas.
2. Inform appropriate hospital personnel in work area of scope of work and potential impact on area.
3. Establish traffic pattern for workers and debris removal with hospital personnel.
4. Identify any additional activities that may be necessary to safely perform work and take appropriate measures. This may include relocation of patients or disruption of ventilation, electrical or plumbing systems.
5. Ensure all necessary equipment & materials for set-up, work and clean-up activities are present.

Set-up Activities

1. Disable and seal ventilation system (supply/return) if located in immediate work area.
2. Construct airtight temporary enclosure or erect portable enclosure.
3. Seal any windows, unused doors or other openings inside the enclosure with construction grade tape.
4. Erect upper seals from false ceiling to true ceiling.
5. Place walk-off mat outside entrance to enclosure.
6. Adequately separate work area from other hospital areas with caution tape, etc.
7. Ensure that adequate negative pressure (7.5 Pa) is being maintained in the enclosure and exhausted to building exterior (away from intake vents) or as approved by IPCS.
8. Ensure that negative pressure differential is measured by a differential pressure gauge connected to a local alarm (must be outside of the enclosure, within 5.0 m of enclosure entrance, and able to record data).

Work Activities

1. Perform work in a manner that will minimize dust generation (e.g. lightly mist area with water).
2. Pre-clean surfaces of any settled dust and debris using a HEPA vacuum and/or clean, damp rags prior to performing any work that may disturb this material.
3. HEPA vacuum areas immediately outside work area on a daily basis if visible debris is observed.
4. Immediately place debris generated in polyethylene bag/polyethylene sheeting for disposal.
5. Visually inspect newly exposed areas for signs of moisture damage/mold growth. If mold growth is suspected, stop work and advise supervisor.
6. Continually inspect enclosure for integrity and stop work/repair if integrity is lost.

Clean-up Activities

1. Remove upper seals and seal ceiling space as required (replace tiles/temporarily seal/repair).
2. Clean debris from floors and walls of enclosure using HEPA-vacuum and/or clean, damp rags.
3. Clean all tools/equipment of debris using HEPA-vacuum and/or damp rags or seal in a polyethylene bag for transport to next location.
4. Clean any debris from protective clothing and bottom of shoes using HEPA-vacuum and clean bottom of shoes using walk-off mats when exiting enclosure.
5. Remove temporary/portable enclosure and other materials (protective clothing, tape, walk-off mats, etc.) and seal all debris within polyethylene bags.
6. Clean floor around work area with a clean and damp mop and/or HEPA-vacuum.
7. Remove debris following pre-established route.
8. Re-establish ventilation system if required.



Revised April 1, 2013

**Procedures for
Class IV – Magenta**

Construction Activity/Population Risk Group: B4, C3, C4, D1, D2, D3, or D4.

General Set-up Requirements: Temporary or portable enclosure to false ceiling, including an anteroom. Upper seals from false ceiling to true ceiling.

Protective Clothing Requirements: Dust impermeable suits and boot covers (such as Tyvek).

Pre-Construction Activities

1. Review area of work and confirm that Class IV – Magenta is appropriate for the type of work to be performed and population present in adjacent areas.
2. Inform appropriate hospital personnel in work area of scope of work and potential impact on area.
3. Establish traffic pattern for workers and debris removal with hospital personnel.
4. Identify any additional activities that may be necessary to safely perform work and take appropriate measures. This may include relocation of patients or disruption of ventilation, electrical or plumbing systems.
5. Ensure all necessary equipment & materials for set-up, work and clean-up activities are present.

Set-up Activities

1. Disable and seal ventilation system (supply/return) if located in immediate work area.
2. Disable and seal ventilation system (supply/return) if located in immediate work area.
3. Construct airtight temporary enclosure or erect portable enclosure, including an anteroom at entrance.
4. Seal any windows, unused doors or other openings inside the enclosure with construction tape.
5. Erect upper seals from false ceiling to true ceiling.
6. Place walk-off mats inside and immediately outside the anteroom.
7. Adequately separate work area from other hospital areas with caution tape, etc.
8. Ensure that adequate negative pressure (7.5 Pa) is being maintained in the enclosure and exhausted to building exterior (away from intake vents) or as approved by IPCS.
9. Ensure that negative pressure differential is measured by a differential pressure gauge connected to a local alarm (must be outside of the enclosure, within 5.0 m of enclosure entrance, and able to record data).

Work Activities

1. Perform work in a manner that will minimize dust generation (e.g. lightly mist area with water).
2. Pre-clean surfaces of any settled dust and debris using a HEPA vacuum and/or clean, damp rags prior to performing any work that may disturb this material.
3. HEPA vacuum areas immediately outside work area on a daily basis if visible debris is observed.
4. Immediately place debris generated in polyethylene bag/polyethylene sheeting for disposal.
5. Visually inspect newly exposed areas for signs of moisture damage/mold growth. If mold growth is suspected, stop work and advise supervisor.
6. Continually inspect enclosure for integrity and stop work/repair if integrity is lost.

Clean-up Activities

1. Remove upper seals and seal ceiling space as required (replace tiles/temporarily seal/repair).
2. Clean debris from floors and walls of enclosure using HEPA-vacuum and/or clean, damp rags.
3. Clean all tools/equipment of debris using HEPA-vacuum and/or damp rags or seal in a polyethylene bag for transport to next location.
4. Clean any debris from protective clothing using HEPA-vacuum, remove protective clothing and boot covers in anteroom and clean bottom of shoes using walk-off mats when exiting enclosure.
5. Remove temporary/portable enclosure and other materials (anteroom, protective clothing, boot covers, tape, walk-off mats, etc.) and seal all debris within polyethylene bags.
6. Clean floor around work area with a clean and damp mop and/or HEPA-vacuum.
7. Remove debris following pre-established route.
8. Re-establish ventilation system if required.