

Infection Prevention and Control (IPC) Building and Refurbishment Works Checklist

1 Introduction

Infection prevention and control (IPC) is a key priority in Australian hospitals. All building, refurbishment, and maintenance activities within a healthcare facility should incorporate a formal approach to risk management. This also includes building and refurbishment works undertaken adjacent to health services that are likely to impact, patients, other users of the health services, or staff. Construction project staff **MUST** formally engage the services of **infection prevention and control services** for all building and refurbishment and related activities within clinical buildings or a hospital.

It is recommended infection prevention and control services:

- Complete the IPC Building and refurbishment works checklist for all building and refurbishment work to monitor the application of IPC recommendations.
- Ensure relevant authorised personnel sign IPC Building and refurbishment works checklist and file appropriately with the builders Construction and Redevelopment Infection Control Management plan (CR-ICMP).
- Monitor IPC recommendations for duration of project and update as required.

Project managers/Builders **MUST** work with infection prevention and control services to:

- Identify any at-risk populations.
- Identify the location of at-risk populations during construction.
- Know the transmission route of a likely pathogen and mitigate the risk in the planning stages.
- Develop an overarching Construction and Redevelopment Infection Control Management plan (CR-ICMP) which includes a detailed summary of IPC mitigation strategies to be utilised throughout the project.

2 Procedure

Determine the following and complete the IPC Building and refurbishment works with **Project Coordinator, relevant stakeholders and ensure infection prevention and control sign off before commencement of works.**

- **Step 1:** Determine TYPE of construction – the “Construction Activity Type” as either Type A, B, C or D.
- **Step 2a and 2b:** Categorise GROUP – Using the **Infection Control Risk Groups and Individual Patient Risk factors to consider for Invasive Aspergillosis Infection**, identify the Patient Risk Group.
- **Step 3:** Determine CLASS – Using the “Construction Class Matrix” identify the Class by cross referencing the Construction Activity Type against the Risk Group to determine if Type I, II, III, IV which informs the types of IPC precautions to be put in place.
- **Step 4:** Finalise IPC Recommendations and ensure sign off prior to commencement of project. Review recommendations during works and update if required (for example, new risks identified)
- **Step 5:** Monitor renovation and construction activities using Infection Control Daily Check List.
- **Step 6:** Ensure completion of IPC Sign-off and Pre-Commissioning Checklist on completion of works.

3 Infection Prevention and Control (IPC) Building and Refurbishment Works Checklist

Project synopsis:	
Location of construction:	
Project coordinator:	
Contractor performing work:	
Project start date:	Estimated duration:
AusHFG Infection Control Checklist completed as part of design and planning: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Supervisor:	Telephone:

Step 1: Determine CONSTRUCTION ACTIVITY TYPE

Type A	Inspection and non-invasive activities: Including but not limited to, activities that require removal of ceiling tiles for visual inspection (limited to one tile per 5m ²), painting but not sanding, wall covering, electrical trim work, minor plumbing that disrupts water supply to a localised patient care area [e.g. one room] for less than 15 minutes, and other maintenance 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, including but not limited to, activities that require access to duct spaces, cutting of walls or ceilings where dust migration can be controlled for the installation or repair of minor electrical work, ventilation components, telephone wires or computer cables, and sanding of walls for painting or wall covering to only repair small patches. It also includes plumbing that requires disruption to the water supply of more than one patient care area (> 2 rooms) for less than 30 minutes.		
Type C	Any work that generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies such as counter tops, cupboards, and sinks. These include, but are not limited to, activities that require sanding of walls for painting or wall covering, removal of floor coverings, ceiling tiles, new wall construction, minor duct work or electrical work above ceilings, major cabling activities, and any activity that cannot be completed within a single work shift. It also includes plumbing that requires disruption to the water supply of more than one patient care area (> 2 rooms) for more than 30 minutes but less than one hour.		
Type D	Major demolition, construction and renovation projects, including but not limited to, activities (occurring onsite or in close proximity to any hospital, clinical service or patient risk group) involving heavy demolition, removal of a complete cabling system and new construction requiring consecutive work shifts to complete. It also includes plumbing that results in disruption to the water supply of more than one patient care area (> 2 rooms) for more than one hour.		
Construction Activity Type (select one)	<input type="checkbox"/> Type A	<input type="checkbox"/> Type B	<input type="checkbox"/> Type C <input type="checkbox"/> Type D

Step 2a: Examples of **INFECTION CONTROL RISK GROUPS** throughout entire project. Please note this is not an exhaustive list – local facilities need to consider patient populations and flow.

Group 1	<ul style="list-style-type: none"> • Office areas • Non patient/low risk areas not listed elsewhere • Workshops and plantroom 	
Group 2	<ul style="list-style-type: none"> • Patient care and other areas not listed under Group 3 or 4 • Cafeteria • Laundry • Dietetics/Nutrition • Materials management 	<ul style="list-style-type: none"> • Admissions/Discharge units • Laboratories not specified under Group 3 • Public corridors used by patients and to transport linen & supplies • Research laboratories • Allied health
Group 3	<ul style="list-style-type: none"> • Emergency Department • Medical Imaging – general • Nuclear medicine • Recovery rooms • Delivery rooms • Newborn nurseries • Paediatric (except paediatric ICU) • Post anaesthetic care units • General medical and surgical wards • Labour and delivery (non-operating room) • Physiotherapy respiratory function areas 	<ul style="list-style-type: none"> • Inpatient mental health units • Microbiology labs • Virology labs • Long stay sub-acute units • Pharmacy • Geriatrics • Long-term care • Echocardiography • Dental clinics • Plus, patients who meet categories 2–4 of individual Patient Risk factors to consider for Invasive Aspergillosis Infection <p>*(refer to step 2b)</p>
Group 4	<ul style="list-style-type: none"> • Radiation therapy, Oncology and haematology units or clinical areas • Transplant units and outpatient clinics for patients who have received bone marrow or solid organ transplants • Pharmacy admixture/clean rooms • All intensive care and high dependency units – adult, paediatric and neonatal • Dialysis units • Anaesthetic and pump rooms • Wards and outpatient clinics for severely immunosuppressed patients 	<ul style="list-style-type: none"> • Outpatient invasive procedure rooms • Operating rooms/Endoscopy areas • Day surgery • Sterile supply units • Cardiac catheterisation and angiography areas • Cardiovascular/cardiology patients • Angiography rooms • Plus, patients who meet categories 2-4 of Individual patient risk factors to consider for Invasive Aspergillosis Infection <p>*(refer to step 2b)</p>

Step 2b: Examples of **INDIVIDUAL PATIENT RISK FACTORS TO CONSIDER FOR INVASIVE FUNGAL INFECTION**

Category 1 No known increased risk	<ul style="list-style-type: none"> • Staff members, service providers and contractors. • All patients not listed in Groups 2–4 below.
Category 2	<ul style="list-style-type: none"> • Patients on prolonged courses of high dose steroids particularly those hospitalised for prolonged periods. • Severely immuno-suppressed patients living with HIV. • Patients undergoing mechanical ventilation. • Patients having chemotherapy who are not neutropenic.* • Dialysis patients. <p>*Neutropenia defined as absolute neutrophil count (ANC), <1x10⁹/l</p>
Category 3	<ul style="list-style-type: none"> • Emergency Department • Neutropenia* for less than 14 days following chemotherapy. • Solid organ transplantation. • Neonates in intensive care units (ICU). <p>*Neutropenia defined as absolute neutrophil count (ANC), <1x10⁹/l</p>
Category 4	<ul style="list-style-type: none"> • Allogenic bone marrow transplantation: within 12 months of transplant, if >12 months, consult with haematologist. • Autologous peripheral blood stem cell transplantation, i.e. during the neutropenic period. • Prolonged neutropenia for greater than 14 days following chemotherapy or immunosuppressive therapy: e.g. acute myeloid leukaemia (AML), acute lymphoblastic leukaemia (ALL), Burkitt's lymphoma, lymphoblastic lymphoma, primary CNS lymphoma. • Aplastic anaemia patients. • Children with: <ul style="list-style-type: none"> – Severe Combined Immunodeficiency Syndrome (SCIDS); – Chronic Granulomatous Disease of Childhood (CGDC). <p>*Neutropenia defined as absolute neutrophil count (ANC), <1x10⁹/l</p>

Step 3: Determine class of works using the **CONSTRUCTION CLASSIFICATION MATRIX**

Infection control risk groups	Construction Activity Type			
	Type A	Type B	Type C	Type D
Group 1	Class I	Class II	Class II	Class III / IV
Group 2	Class I	Class II	Class III	Class IV
Group 3	Class I	Class III	Class III / IV	Class IV
Group 4	Class III	Class III / IV	Class III / IV	Class IV
Construction Activity class of works (select one)	Class I	Class II	Class III	Class IV

Step 4: Develop **IPC RECOMMENDATIONS**

(See examples of Required IPC Precautions by Class for list of recommendations)

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Note: Adaptations to the prevention measures can be made only after approval has been provided by the Infection and Control services. Develop in collaboration with Infection Prevention and Control services.

Prepared by	Name	Signature	Date prepared
Project Lead			
Project Coordinator			
IPCP			
WHS			
Engineering			
Relevant Committee			

Examples of IPC PRECAUTIONS BY CLASS OF WORKS

	During Construction Project	Upon Completion of Project
Class I	<ol style="list-style-type: none"> 1. Execute work by methods to minimise raising dust from construction operations. 2. Immediately replace a ceiling tile displaced for visual inspection. 	<ol style="list-style-type: none"> 1. Clean work area upon completion of task. 2. Vacuum with HEPA filtered vacuum before leaving work area and wet mop as needed.
Class II*	<ol style="list-style-type: none"> 1. Provide active means to prevent airborne dust from dispersing into atmosphere. 2. Water mist work surface to control dust while cutting. 3. Seal unused doors with duct tape. 4. Block off and seal air vents. 5. Place dust mat at entrance and exit of work area. 6. Remove or isolate HVAC system in areas where work is being performed. 	<p>Same as Class I, plus</p> <ol style="list-style-type: none"> 1. Contain construction waste before transport to prevent construction waste spill, e.g. place waste in tightly covered containers. 2. Remove or isolate HVAC system in areas where work is being performed.
Class III*	<ol style="list-style-type: none"> 1. Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers i.e. plasterboard, plywood, plastic, to seal area from non-work or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Place dust-mat at entrance and exit of work area and replace when no longer effective. 4. Maintain negative air pressure within work site utilising HEPA equipped air filtration units. 5. Contain construction waste before transport to prevent construction waste spill, e.g. place waste in tightly covered containers. 6. Cover transport receptacles or carts. Tape covering unless solid lid. 	<ol style="list-style-type: none"> 1. Do not remove barriers from work area until completed project is inspected by the WHS and infection control teams and area thoroughly cleansed by operational services. 2. Remove barrier materials carefully to minimise spreading of dirt construction. 3. Vacuum work area with HEPA filtered vacuums. 4. Wet mop area with warm water and detergent. 5. Remove isolation of HVAC system in areas following completion of works and cleaning of construction zone.
Class IV*	<ol style="list-style-type: none"> 1. Isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers i.e. plasterboard, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Place dust-mat at entrance and exit of work area and replace when no longer effective. 4. Maintain negative air pressure within work site utilising HEPA equipped air filtration units. 5. Seal holes, pipes, conduits, and punctures appropriately. 6. Construct anteroom and require all personnel to pass through this room. Staff should be vacuumed using a HEPA vacuum cleaner before leaving work site or staff wear cloth or paper coveralls that are removed each time they leave the work site. 	<ol style="list-style-type: none"> 1. Remove barrier material carefully to minimise spreading of dirt and debris associated with construction. 2. Contain construction waste to prevent construction waste spill, e.g. place waste in tightly covered containers. 3. Cover transport receptacles or carts. Tape covering unless solid lid. 4. Vacuum work area with HEPA filtered vacuums. 5. Wet mop area with combined detergent and disinfectant product. 6. Remove isolation of HVAC system in areas following completion of works and cleaning of construction zone.

	<p>7. All personnel entering work site should be encouraged to keep footwear clean and free from debris.</p> <p>8. Do not remove barriers from work area until completed project is inspected by infection control team and thoroughly cleaned by operational services.</p>	
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*It is strongly recommended that highest risk patients are assessed for additional measures (such as mask wearing or change to antibiotic prophylaxis regimen) dependent on construction activity.

Step 5. Monitor renovation and construction activities using IPC DAILY CHECKLIST

Project title:		Project start date:	
Project number:		Time:	Date:
Inspector:			
Location:			
Contractor:			
IPC DAILY CHECKLIST	YES	NO	CORRECTED
1. Construction Barricade			
Barriers sealed where appropriate, no penetrations			
Walk off mats in place and clean			
Barrier doors have closers and they are working			
Door frames have gaskets, doors close and seal properly			
Signs posted informing about spread of dust			
Adjacent ceiling areas intact			
Adjacent floor is clean and no dust is tracked through			
Unused doors are sealed with duct tape			
Unused cupboards are sealed with duct tape			
Comments:			
2. Air flow and AC systems			
HVAC system remains isolated			
HEPA filtered ventilation units maintain negative pressure			
All windows and doors closed behind barrier			
Portable negative air units or exhaust fans running			
Portable negative air unit's filter's cleaned daily or as per schedule if required			
Portable negative air unit's discharge ducts maintained as per schedule			

All grills are sealed/covered			
Air quality monitoring/sampling insitu			
Negative pressure at barrier entrance			
Comments:			
3. Jobsite			
Project area is clean and construction waste removed daily			
Floors are vacuumed with a HEPA filtered vacuum daily			
Debris is securely contained to prevent spill prior to removal in suitable containers			
Debris removed at time specified			
Adjacent areas ceiling and walls intact and dry			
Adjacent area horizontal surfaces are free from dust and debris			
Wet mop entry/exit point for work site twice daily, and as required			
Receptacles for construction waste are covered and in a dedicated area			
Dedicated cleaning equipment to be used. Mop heads to be changed daily as a minimum			
Comments:			
4. Occupied Areas			
Work authorised and scheduled			
Barrier in place and properly sealed			
Ceiling access sign posted			
Surrounding areas are clean of visible dust and debris			
Comments:			

Completed by:		Approved by: IPCP (name)	
Date:		Date:	

Step 6. Complete IPC SIGNOFF AND PRE-COMMISSIONING CHECKLIST

Project Title:		Project End Date:	
Project Number:	Time:	Inspector:	
	Date:		
Location:			
Contractor:			
Contractors have mitigated immediate jobsite risks depending on class of works			
	YES	NO or N/A	Recommendations or actions\required
Class I <ul style="list-style-type: none"> Clean work area upon completion of the task with combined detergent disinfectant product. This includes all horizontal and vertical surfaces to ensure all dust and debris has been removed. 			
Class II <ul style="list-style-type: none"> Contain construction waste before transport to prevent spills in tightly covered containers. Clean work surfaces at least daily with water and combined detergent disinfectant product. Vacuum works zone with HEPA filtered vacuum and wet mop as needed before leaving the work area. Remove isolation of HVAC system following completion of works and cleaning of construction area. 			
Class III <ul style="list-style-type: none"> Do not remove barriers from work area until completed project has been inspected by WHS and infection control staff; and thoroughly cleaned by operational services staff. Contain construction waste before transport to prevent spills in tightly covered containers. Remove barrier materials carefully to minimize spreading of dust and debris associated with construction. Barrier materials should be damp wiped, HEPA vacuumed prior to removal. Clean work surfaces with water and combined detergent/disinfectant product. Vacuum work area with HEPA filtered vacuums. Wet mop area with hot water and combined detergent/disinfectant product. Remove isolation of HVAC system following completion of works and cleaning of construction area. 			

<p>Class IV</p> <ul style="list-style-type: none"> • Do not remove barriers from work area until completed project is inspected by WHS and infection control staff; and thoroughly cleaned. • Contain construction waste before transport to prevent spills in tightly covered containers. • Remove barrier material carefully to minimise spreading of dust and debris associated with construction. Barrier materials should be damp wiped, HEPA vacuumed prior to removal. • Cover transport receptacles or carts. Tape down covering unless solid lids are in use. • Clean work surfaces with hot water and detergent/disinfectant. • Vacuum work area with HEPA filtered vacuums. • Wet mop area with hot water and detergent/disinfectant. • Remove isolation of HVAC system in areas following completion of works and cleaning of construction area. 			
Final inspection and sign off by IPC and relevant stakeholders completed			
	YES	NO or N/A	Recommendations or actions required
1. Defect inspection of all furniture, fittings, and fixtures			
2. Dispensers for hand hygiene products (soap, alcohol-based hand rub, paper towel), sharps containers, PPE have been installed in correct locations			
3. Dispensers for cleaning products (e.g. wipes) are installed in correct locations			
4. There are appropriate receptacles for waste available			
5. Signage holders are installed and in correct locations (outside single rooms, near hand hygiene basins)			
6. Disposable curtains are dated			
7. Pre-occupancy thorough physical clean with combined detergent/disinfectant product completed for all surfaces (including ceilings)			
8. Air conditioning systems are functioning correctly and working within recommended parameters as per engineering and/or contractor			
9. Air intake and exhaust outlets are located and working properly			
10. HEPA filters and laminar/clean flow systems (where installed) have been recertified			

11. Air sampling and particle counts have been performed and results are within acceptable limits (where applicable)			
12. Sinks and plumbing fixtures are suitable for the task and properly located (as per relevant Standards)			
13. Water systems have been flushed and water testing has occurred.			
Comments:			

Completed by:		Approved by: IPCP (name)	
Date:		Date:	

References

[Part D.0005 Construction and Renovation 7.pdf](#)