1 Policy Objective

To identify and define the risks of fungal spore exposure to patients during any building work that is occurring on Trust premises and give measures to prevent infection occurring.

2 Scope

This policy is applicable to all Infection Prevention and Control staff, Estates and construction workers, and staff caring for at risk patients.

3 Background

3.1 What are the main pathogens causing invasive fungal infections?

There are many fungal species that grow in the natural environment, but only a small proportion of these present an infection risk to humans. The main species causing significant human infection is Aspergillus species. While this policy refers to aspergillus, the same principles apply for the prevention of infection due to other moulds, which may be released into the environment during building work.

3.2 Where does Aspergillus come from?

Aspergillus are ubiquitous fungi and natural inhabitants of soil, water and organic vegetation and debris. Aspergillus spores survive well in the environment and have been cultured from unfiltered air, ventilation systems, dust produced during the course of hospital renovation and construction, food and ornamental plants and flowers.

3.3 Who is at risk?

Whilst aspergillus rarely poses a threat to normal healthy people, it is recognised as a potential cause of severe illness and mortality in highly immunocompromised patients and is the commonest form of invasive fungal infection. For each individual piece of work, there needs to be a risk assessment carried out to determine which patients may be at risk, this is undertaken with the Infection Prevention and Control Team (IPCT).
3.4 **How do patients acquire invasive fungal infections?**

The primary route of infection is by inhalation of fungal spores which colonise the lungs and can spread via the bloodstream to other major organs. Infection is also believed to occur directly into deep wounds during surgery, however due to the hygiene standards in theatres and the relatively short exposure times involved, this rarely poses a significant risk.

A dose-response relationship exists between exposure to airborne spores and the risk of pulmonary infection. Epidemics of invasive aspergillosis have been traced to heavy contamination of hospital air and a well recognised association exists between outbreaks of nosocomial invasive aspergillosis and hospital demolition/be building work.

3.5 **What is the outcome of susceptible patients being exposed to aspergillus?**

The outcome of patients who develop invasive aspergillosis is poor, with a high mortality, due to a number of factors. The initial difficulty is that it may not be obvious that exposure has occurred. Symptoms and signs are often non-specific and the diagnosis may be missed or made late. Diagnostic tests for aspergillosis are difficult and may involve invasive procedures. Treatment is lengthy and costly and mortality is still high despite new therapies, thus making prevention a high priority in the management of all at-risk patients.

3.6 **What type of work constitutes a risk?**

Building work should be regarded as any new build, demolition, renovation, refurbishment, redecoration or maintenance work that involves disturbance to any fabric of the building, including ceiling tiles. At risk work also includes external work which involves the digging of earth or movement of soil. This can result in the spreading of aspergillus spores.

When hospital construction and renovation activities are in the planning stage, it is important to implement a strategy that attempts to protect patients at high risk from aspergillosis and minimise exposure to high ambient air spore levels. This will necessitate creating and maintaining an environment as free of aspergillus spores as possible.

3.7 **How are fungal infections prevented?**

There are two main strategies to prevent nosocomial aspergillosis and they are to minimise the amount of fungal spore release and to keep the highest risk patients away from any area where fungal spores may be present. Aspergillus spores have a diameter of between 2.5 and 3.5 microns. In practice this makes the only effective ventilation filtration system to be High Efficiency Particulate Air (HEPA) quality EU12 or above.
4 Roles of staff during any building work

4.1 Role of the Infection Prevention and Control Team (IPCT)

The IPCT must be involved in:
- All phases of any building work where there is a risk to patients e.g. of aspergillus or other fungal spores, whether demolition, construction or internal refurbishment, from planning to final hand over of the project.
- Planning, agreement of work programme and duration. Documentary evidence must be completed.
- Undertaking a risk assessment for the area involved.
- Education sessions for contractors.
- Attending pre-start meetings and Estates progress meetings as required and will be available for advice and consultation throughout the project.
- Visiting the site when nearing completion, at ‘snagging’ stage
- Reviewing the environment following final domestic clean. There must be sufficient time to allow for any issues to be resolved prior to the area being accessed by patients

4.2 Role of the Estates building / construction workers

- To be aware of this policy and adhere to the points contained within.
- To attend relevant educational sessions
- To forward plans/method statements to the IPCT for review and agreement
- Circulate schedule of work to the IPCT
- To liaise with the IPCT before work commences and during all subsequent phases, highlighting any areas of concern to the IPCT immediately as they arise
- To maintain the site and their clothing as listed below
- Arrange for a ‘builder’s clean’ and domestic clean on completion of works

4.3 Role of ward staff and those involved in patients’ care

- To be aware of this policy and adhere to it
- To maintain a high degree of clinical suspicion of invasive fungal infections during any period of building work
- To liaise with the IPCT if any concerns arise regarding the work or any individual patient
- To liaise with the IPCT regarding antifungal prophylaxis, when appropriate

5 Risk Assessment

Patients at most risk of invasive aspergillosis are those who are immunocompromised or immunosuppressed for extended periods of time. At risk patients can be categorised as follows:

**Group 1 ~ No evidence of risk**
1. Staff members, Service Providers and Contractors
2. All patients not listed in Groups 2 – 4 below
Group 2 ~ Increased risk
1. Patients on prolonged courses of high dose steroids particularly those hospitalised for prolonged periods.
2. Severely immunosuppressed AIDS patients
3. Patients within a mechanically ventilated environment
4. Patients having chemotherapy who are not neutropenic**
5. Dialysis patients

Group 3 ~ High risk
1. Neutropenia for less than 14 days following chemotherapy
2. Adult acute lymphoblastic leukaemia (ALL) on high dose steroid therapy
3. Solid organ transplantation
4. Chronic Granulomatous Disease of Childhood (CGDC)
5. Neonates in intensive care units (ICU)

**Neutropenia defined as absolute neutrophil count (ANC), <0.5x10^9/L

Group 4 ~ Very high risk
1. Allergic bone marrow transplantation
   a. during the neutropenic period
   b. with graft versus host disease
2. Autologous bone marrow transplantation, i.e. during the neutropenic period
3. Peripheral stem cell transplantation, i.e. during the neutropenic period
4. Non-myeloablative transplantation
5. Children with severe combined immuno-deficiency syndrome (SCIDS)
6. Prolonged neutropenia for greater than 14 days following chemotherapy
7. or immunosuppressive therapy
8. Aplastic anaemia patients.

6 Precautions taken to prevent aspergillus infection

6.1 Permanent protection for the highest risk patients by the use of HEPA filtration ventilation (EU12 or above).

Such systems will be individually designed for specific clinical areas. The performance specification should be approximately 10 - 15 air changes per hour maintaining a positive pressure of between 15 and 20 Pascal’s.

6.2 Specific Infection Prevention and Control precautions to be instituted during building work;

6.2.1 Physical Barriers
These are required to minimise spores contaminating clinical areas and may include:
   • Plastic sheeting.
- Fire-rated with a > 2 feet overlap for entry.
- Rigid barriers i.e. White washable plywood, which is dust-proof and fire-rated.
- Provision of an entry vestibule for change of clothing, tool storage etc.
- Sealing of windows with adhesive strips.
- Sealing of the area of building work if possible.
- Sealing of doors.
- Sealing of roof space.
- Taking care to minimise dust when dismantling barriers.
- Controlling of dust accumulation by regular ‘damping down’ with water.
- Dust attracting mats at all entrances/exits from site

6.2.2 Traffic Control
This can also reduce the dissemination of spores by:
- Directing patients, staff and visitors away from construction area.
  (Ensure signage is clear and visible).
- Designated entry/exit for contract staff.
- Using separate routes for patients, staff and visitors including separate lifts if appropriate.
- Using routes for removal of building materials and waste which are away from clinical areas.
- For immunocompromised patients, planning journeys avoiding potentially heavily contaminated areas and considering additional precautions e.g. standard surgical face masks, for patients moving around and visiting the hospital.
- Contractual staff must change into clean clothing before accessing trust communal catering areas

6.2.3 Ventilation
The direction and movement of air as a vehicle for dissemination of aspergillus spores needs to be considered including the following:
- Use of a negative pressure HEPA filtered vacuum in the construction area, exhausted outside if possible and away from clinically susceptible patient areas.
- Direction of airflow should go from clean to dirty areas.
- Protection of the ventilation units of clinical areas.
  - Most important for high risk areas with immunocompromised patients or specialised units.
  - Seal air intakes. However, this will preclude certain clinical areas from being used.
  - Consider carrying out dust generating construction activities out of hours when the air-handling units are shut down. However, this will preclude certain clinical areas from being used.
  - Consider use of additional filters on air intakes. These may block quickly, depending on the type of activity.
  - Monitor filters and air flow.
  - Change filters as required.
6.2.4 Water Supply Disruption
Interruptation of mains water supply may increase the risk of contamination of the water by *Legionella* spp. and possibly *Aspergillus*.
- Microbiological testing may be appropriate in specific areas. Infection Prevention and Control will advise.
- Potential remedial actions may include:
  - Flushing of the system
  - Chlorination
  - Pasteurisation of the water supply
  - Chlorine dioxide

6.2.5 Waste
Spore contaminated waste may also pose a risk. This can be minimised by:
- Removing waste through a designated route avoiding clinical areas as far as practically possible.
- Removing debris in tightly sealed, lidded container. Heavy duty bags may need to be used. Alternatively, cover it with a suitable covering, e.g. tarpaulin.
- Removing waste regularly, at least on a daily basis. Do not allow waste to accumulate, remove at quiet times – e.g. end of day, end of session.
- If construction activity is above ground level, remove bagged waste via a chute
- Building rubble chutes should be sealed when not in use.
- Ensuring that the chutes are designed to empty directly into a covered skip or container, avoiding gaps.
- All skips and waste removal lorries to be covered
- Dampen down rubble as appropriate, preventing pooling of water

6.2.6 Builders Clothing and Equipment
Construction workers and their equipment should be free of debris and dust on exiting the building area, particularly if they are passing through clinical areas.
The use of the following strategies may be recommended:
- Hoovers containing a HEPA filter for clinical areas.
- Change of clothing in an airlock if available.
- Overshoes to be put on when entering a construction area and removed on leaving.
- Overalls.
- ‘Tacky mats’.
- Wiping down equipment before it leaves the area.

6.2.7 Protection of High-Risk Patients
The risk for individual patients needs to be considered including:
- The possibility of delaying admission, admitting elsewhere or deferring elective immunosuppression if the patient cannot be nursed in a clean environment. This needs to be discussed between the named Consultant, Infection Prevention and Control and the patient.
• Planning movements of susceptible patients, including access to hospital for outpatients and admission of inpatients, to avoid high risk areas if possible.
• The use of standard surgical face masks if the patient may potentially be exposed to dust.
• Prophylactic antifungal agents (e.g. itraconazole) may be considered in extremely vulnerable patients.
• If the water supply is compromised it may be contaminated with aspergillus. Consider the risk of contamination and the risk to patients in categories 2 to 4. The risk relates to the potential for contaminated water in showers and sinks to be aerosolised. If there are concerns relating to contamination of the water supply please discuss this with the infection control team.
• Ensuring appropriate physical barriers are in place. Seal windows, doors and ceiling space. (Solid ceilings are preferred to false ceilings in units with high risk patients).
• Use of HEPA filtered air or laminar air flow. Temporary or permanent facilities may be available.
• Ensuring that the air flow is in the right direction in order to protect the patient i.e. the supply to the patient’s room is greater than air supply in the adjacent corridor (supply should be 10–20 % greater than the exhaust).
• Monitoring may be appropriate e.g.
  - Air flow or pressure.
  - Particle counts.
  - Air sampling.

The type of infection control measures required for each type of construction activity based on patient risk can be determined using the assessment tool in appendix 1.

7 Training

• Aspergillus management incorporated into competencies for new IPCNs
• Health & Safety induction for Estates/Contractors
• IPCNs deliver sessions at request of Estates
• Microbiology training
  IC training for Microbiology registrars
  Policy writing by Consultants

8 Equality and Diversity

The Trust is committed to ensuring that, as far as is reasonably practicable, the way we provide services to the public and the way we treat our staff reflects their individual needs and does not discriminate against individuals or groups on any grounds. This document has been appropriately assessed.
9 Monitoring

<table>
<thead>
<tr>
<th>Standard/ process /issue</th>
<th>Monitoring and audit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental cleanliness</td>
<td>Cleanliness Audits CAT</td>
</tr>
<tr>
<td></td>
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</table>

- Ventilator PPM where appropriate

During construction, the IPCT will review its progress in order to identify any potential problems at the earliest opportunity.

Inspection will include considerations such as:
- Dust and debris.
- Traffic control.
- Barriers.
- Cleanliness of adjacent sites, increasing the frequency of cleaning as necessary

Formal monitoring may be appropriate under some circumstances e.g.
- Airflow.
- Air sampling.
- Particle counting.
- Water testing.
- Temperature.
- Humidity.
- A construction monitoring form will be used by the Infection Prevention and Control team.
- A thorough check of the area by Infection Prevention and Control and Estates will be made at the time of commissioning.
- Following completion of the work, a project appraisal should be completed within 1 month.

9.1 Air Monitoring

In areas where HEPA filtration is in use, regular monitoring may be performed to ensure the satisfactory functioning of the filters.

In the event of concerns about the functioning of the HEPA filtration system the IPCT must be informed and if air monitoring is unsatisfactory the IPCT will:
- Contact the Estates Department.
  - If necessary ask for work to be stopped until the problem has been rectified.
  - Arrange for appropriate cleaning of the area with domestic services.
9.2 Clinical Monitoring

Clinicians will be asked to report clinical cases of suspected hospital acquired fungal infection to the Medical Microbiologists.

The IPCT will then investigate possible causes.

Author: Consultant and Trainee Microbiologist / Senior Infection Prevention and Control Nurse

10 References

5. CDC. Guidelines for preventing health care associated pneumonia, 2003. MMWR 2004:53 (RR03); 1-36
# Building Works Infection Prevention and Control Advice

Hospital Site:  
Area:  

Estate Lead:  
Tel:  

Contractor:  
Tel:  

IPCN:  
Tel:  

<table>
<thead>
<tr>
<th>Information</th>
<th>Yes/No/Date</th>
</tr>
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<tbody>
<tr>
<td>Method Statement Requested</td>
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<tr>
<td>Date method statement received</td>
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<td>Commencement date</td>
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<td>Duration of work</td>
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<td>Completion date</td>
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<tr>
<td>IPCN to attend pre-start meeting</td>
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</tr>
<tr>
<td>IPCN to receive minutes of progress meetings</td>
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<tr>
<td>IPCN to attend hand-over meeting</td>
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</table>

**Brief description of building work:**

**Advice**

<table>
<thead>
<tr>
<th>Area to be screened:</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Heavy duty double plastic (including ceiling void if appropriate)</td>
<td></td>
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<tr>
<td>- Clean white washable plywood (including ceiling void if appropriate)</td>
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</tr>
<tr>
<td>- Heavy duty washable tape</td>
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</tr>
<tr>
<td>HEPA extract</td>
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<tr>
<td>HEPA Hoovers</td>
<td></td>
</tr>
<tr>
<td>Sticky mats on entry and exit to the area</td>
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</tr>
<tr>
<td>Debris to be bagged internally prior to removal</td>
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</tr>
<tr>
<td>Debris to be deposited in covered skips</td>
<td></td>
</tr>
<tr>
<td>Specify area:</td>
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</tr>
<tr>
<td>Fixed time for removal of debris</td>
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</tr>
<tr>
<td>Specify</td>
<td></td>
</tr>
<tr>
<td>Area(s) to be cleaned:</td>
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</tr>
<tr>
<td>Daily</td>
<td></td>
</tr>
<tr>
<td>Other- specify frequency:</td>
<td></td>
</tr>
<tr>
<td>Cleaning arranged by:</td>
<td></td>
</tr>
<tr>
<td>Windows to be sealed</td>
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</tr>
<tr>
<td>Air sampling</td>
<td></td>
</tr>
<tr>
<td>Contractor/Estates to inform IPCN when screens erected</td>
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<tr>
<td>Date informed:</td>
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</tr>
<tr>
<td>IPCN to check screens</td>
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</tr>
<tr>
<td>Education sessions for contractors required</td>
<td></td>
</tr>
<tr>
<td>Nominated route for contractors</td>
<td></td>
</tr>
<tr>
<td>Specify:</td>
<td></td>
</tr>
<tr>
<td>Re-direction of patients/staff/visitors</td>
<td></td>
</tr>
<tr>
<td>Wall washers on completion of work</td>
<td></td>
</tr>
<tr>
<td>Domestics on completion of work</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 1: Process to determine the infection control measures required for a patient population based on the type of construction activity.

Step One
Use the list to identify the CONSTRUCTION ACTIVITY TYPE
Types of construction activity

Type A Inspection and non-invasive activities: These include, but are not limited to, activities that require removal of ceiling tiles for visual inspection (limited to one 600 mm square tile per 15 m2), painting but not sanding, wall covering, electrical work, minor plumbing that disrupts water supply to a localised patient care area [e.g. one room] for less than 15 minutes, access to floor ducts, 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. These include, but are 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 (> two 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 (> two rooms) for more than 30 minutes but less than one hour.

Type D Major demolition, construction and renovation projects. These include, but are not limited to, activities that involve heavy demolition or removal of a complete cabling system and new construction requiring consecutive work shifts to complete. It also includes plumbing that result in disruption to the water supply of more than one patient care area (> two rooms) for more than one hour.

Step Two
Use the list to identify the PATIENT RISK GROUPS affected by the activity. If two groups are affected select the highest risk group Population and Geographic Risk Groups

Group One-Lowest Risk
• Office areas
• Public areas
• Workshops
• Plantrooms (subject to risk assessment)

Group Two-Medium Risk
• Unoccupied wards
• Outpatient clinics (except for oncology & surgery)
• Admission/discharge units
• Research laboratories
• Allied Health areas

**Group Three-Medium to High Risk**
• All patient care areas unless stated in Group 3 or 4 including but not limited to:
  * General medical & surgical wards other than those listed in Group 4
  * Paediatrics
  * Geriatrics
  * Long-term care
  * Normal newborn nurseries
• Emergency rooms
• Transport routes of patients from any of the above categories
• Radiology/MRI
• Post anaesthesia care units
• Labour and delivery (non operating room)
• Nuclear medicine
• Physiotherapy respiratory function areas
• Echocardiography
• Medical laboratories (specimens)
• Dental clinics

**Group Four-Highest Risk**
• All Intensive Care Units and High Dependency Units
• All Operating Rooms
• Day Surgery
• Labour & delivery Operating Rooms
• Anaesthesia areas
• Oncology and Haematology units and outpatient clinics for patients with cancer
• Transplant units and outpatient clinics for patients who have received bone marrow or solid organ transplants
• Wards and outpatient clinics for patients with AIDS or other immunodeficiency
• Dialysis units
• Tertiary care nurseries
• Transport routes of patients from any of the above categories
• All Cardiac Catheterisation & Angiography areas
• Cardiovascular/cardiology patients
• All Endoscopy areas
• Pharmacy admixture rooms
• Sterile processing rooms

**Step Three**
Match the CONSTRUCTION ACTIVITY TYPE with the PATIENT RISK GROUP NUMBER on the Construction Class Matrix to determine the infection control class.

**Construction Class Matrix**

<table>
<thead>
<tr>
<th>Construction activity</th>
<th>Construction activity</th>
</tr>
</thead>
</table>

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### Step Four
Description of Required Infection Control Precautions by Class

<table>
<thead>
<tr>
<th>Risk group</th>
<th>Type A</th>
<th>Type B</th>
<th>Type C</th>
<th>Type D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>Class I</td>
<td>Class II</td>
<td>Class III</td>
<td>Class III/IV</td>
</tr>
<tr>
<td>Group 2</td>
<td>Class I</td>
<td>Class II</td>
<td>Class III</td>
<td>Class IV</td>
</tr>
<tr>
<td>Group 3</td>
<td>Class I</td>
<td>Class III</td>
<td>Class III/IV</td>
<td>Class IV</td>
</tr>
<tr>
<td>Group 4</td>
<td>Class III</td>
<td>Class IV</td>
<td>Class IV</td>
<td>Class IV</td>
</tr>
</tbody>
</table>

#### During Construction Project

<table>
<thead>
<tr>
<th>Class</th>
<th>Prevention Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I</strong></td>
<td>1. Execute work by methods to minimise raising dust from construction operations.</td>
</tr>
<tr>
<td></td>
<td>2. Immediately replace a ceiling tile displaced for visual inspection.</td>
</tr>
<tr>
<td><strong>II</strong></td>
<td>1. Provide active means to prevent airborne dust from dispersing into atmosphere.</td>
</tr>
<tr>
<td></td>
<td>2. Water mist work surfaces to control dust while cutting.</td>
</tr>
<tr>
<td></td>
<td>3. Seal unused doors with duct tape.</td>
</tr>
<tr>
<td></td>
<td>4. Block off and seal air vents.</td>
</tr>
<tr>
<td></td>
<td>5. Place dust mat at entrance and exit of work area</td>
</tr>
<tr>
<td></td>
<td>6. Remove or isolate HVAC (heating, ventilation and air-conditioning) system in areas where work is being performed.</td>
</tr>
<tr>
<td><strong>III</strong></td>
<td>1. Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system.</td>
</tr>
<tr>
<td></td>
<td>2. Complete all critical barriers i.e. plasterboard, plywood, plastic, to seal area from non-work area before construction begins.</td>
</tr>
<tr>
<td></td>
<td>3. Maintain negative air pressure within work site using HEPA equipped air filtration units.</td>
</tr>
<tr>
<td></td>
<td>5. Cover transport receptacles or carts. Tape covering unless solid lid.</td>
</tr>
<tr>
<td><strong>IV</strong></td>
<td>1. Isolate HVAC system in area where work is being done to prevent contamination of duct system.</td>
</tr>
<tr>
<td></td>
<td>2. Complete all critical barriers i.e. plasterboard, plywood, plastic, to seal area from non-work area before construction begins.</td>
</tr>
<tr>
<td></td>
<td>3. Maintain negative air pressure within work site using HEPA equipped air filtration units.</td>
</tr>
<tr>
<td></td>
<td>4. Seal holes, pipes, conduits, and punctures appropriately.</td>
</tr>
<tr>
<td></td>
<td>5. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site.</td>
</tr>
<tr>
<td></td>
<td>6. All personnel entering work site are required to wear shoe covers. Shoe covers must be removed each time the worker exits the work area.</td>
</tr>
<tr>
<td></td>
<td>7. Do not remove barriers from work area until completed project is inspected by the Infection Control Department (where appropriate) and thoroughly cleaned.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Class</th>
<th>Upon Completion of Project</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I</strong></td>
<td>1. Clean work area upon completion of task.</td>
</tr>
<tr>
<td><strong>II</strong></td>
<td>1. Clean work surfaces with hot water and detergent.</td>
</tr>
<tr>
<td></td>
<td>2. Contain construction waste before transport in tightly covered containers.</td>
</tr>
<tr>
<td></td>
<td>3. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area.</td>
</tr>
<tr>
<td></td>
<td>4. Remove isolation of HVAC system in areas where work is being performed.</td>
</tr>
<tr>
<td><strong>III</strong></td>
<td>1. Do not remove barriers from work area until completed project is inspected by the Infection Control Department (where appropriate) and thoroughly cleaned.</td>
</tr>
<tr>
<td></td>
<td>2. Clean barriers prior to removal to minimise spreading of dirt and debris associated with construction.</td>
</tr>
<tr>
<td></td>
<td>3. Cover transport receptacles or carts. Tape covering unless solid lid.</td>
</tr>
<tr>
<td></td>
<td>4. Vacuum work area with HEPA filtered vacuums.</td>
</tr>
<tr>
<td></td>
<td>5. Wet mop area with combined detergent /chlorine 1000ppm.</td>
</tr>
<tr>
<td></td>
<td>6. Remove isolation of HVAC system in areas where work is being performed.</td>
</tr>
<tr>
<td><strong>IV</strong></td>
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<td></td>
<td>5. Wet mop area with combined detergent /chlorine 1000ppm.</td>
</tr>
<tr>
<td></td>
<td>6. Remove isolation of HVAC system in areas where work is being performed.</td>
</tr>
</tbody>
</table>
This form must be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval.

<table>
<thead>
<tr>
<th>Policy Title: Prevention of Aspergillosis and infections from other fungi during Building Work Procedure</th>
<th>Policy Author: Dr Manjusha Narayanan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes/No?</td>
<td>You must provide evidence to support your response:</td>
</tr>
<tr>
<td>1. Does the policy/guidance affect one group less or more favourably than another on the basis of the following: (* denotes protected characteristics under the Equality Act 2010)</td>
<td></td>
</tr>
<tr>
<td>• Race *</td>
<td>No</td>
</tr>
<tr>
<td>• Ethnic origins (including gypsies and travellers)</td>
<td>No</td>
</tr>
<tr>
<td>• Nationality</td>
<td>No</td>
</tr>
<tr>
<td>• Gender *</td>
<td>No</td>
</tr>
<tr>
<td>• Culture</td>
<td>No</td>
</tr>
<tr>
<td>• Religion or belief *</td>
<td>No</td>
</tr>
<tr>
<td>• Sexual orientation including lesbian, gay and bisexual people *</td>
<td>No</td>
</tr>
<tr>
<td>• Age *</td>
<td>No</td>
</tr>
<tr>
<td>• Disability – learning difficulties, physical disability, sensory impairment and mental health problems *</td>
<td>No</td>
</tr>
<tr>
<td>• Gender reassignment *</td>
<td>No</td>
</tr>
<tr>
<td>• Marriage and civil partnership *</td>
<td>No</td>
</tr>
<tr>
<td>2. Is there any evidence that some groups are affected differently?</td>
<td>No</td>
</tr>
<tr>
<td>3. If you have identified potential discrimination which can include associative discrimination i.e. direct discrimination against someone because they associate with another person who possesses a protected characteristic, are any exceptions valid, legal and/or justifiable?</td>
<td>No</td>
</tr>
<tr>
<td>4(a). Is the impact of the policy/guidance likely to be negative? (If “yes”, please answer sections 4(b) to 4(d)).</td>
<td>No</td>
</tr>
<tr>
<td>4(b). If so can the impact be avoided?</td>
<td>N/A</td>
</tr>
<tr>
<td>4(c). What alternatives are there to achieving the policy/guidance without the impact?</td>
<td>N/A</td>
</tr>
<tr>
<td>4(d) Can we reduce the impact by taking different action?</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Comments: Action Plan due (or Not Applicable):

Name and Designation of Person responsible for completion of this form: Dr Manjusha Narayanan, Consultant Microbiologist...Date: 01.11.2013

Names & Designations of those involved in the impact assessment screening process: Dr Manjusha Narayanan, Consultant Microbiologist...

(If any reader of this procedural document identifies a potential discriminatory impact that has not been identified on this form, please refer to the Policy Author identified above, together with any suggestions for the actions required to avoid/reduce this impact.)

For advice on answering the above questions please contact Frances Blackburn, Head of Nursing, Freeman/Walkergate, or, Christine Holland, Senior HR Manager. On completion this form must be forwarded electronically to Steven Stoker, Clinical Effectiveness Manager, (Ext. 24963) steven.stoker@nuth.nhs.uk together with the procedural document. If you have identified a potential discriminatory impact of this procedural document, please ensure that you arrange for a full consultation, with relevant stakeholders, to complete a Full Impact Assessment (Form B) and to develop an Action Plan to avoid/reduce this impact; both Form B and the Action Plan should also be sent electronically to Steven Stoker within six weeks of the completion of this form.