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SOP Objective

To ensure that all damage to the physical healthcare environment caused by water ingress is managed in order to minimise the risk of cross-infection.

This SOP applies to all staff employed by NHS Greater Glasgow & Clyde and locum staff on fixed term contracts and volunteer staff.

KEY CHANGES FROM THE PREVIOUS VERSION OF THIS SOP

Document Control Summary

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Related Documents	National IPC Manual National Infection Prevention and Control Manual
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Lead Manager	Director of Infection Prevention & Control
Responsible Director	Board Nurse Director and Executive Lead for Infection Prevention & Control

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1. Responsibilities

Health Care Workers (HCW) must:

- Follow this SOP.
- Follow the advice of the Infection Prevention and Control Team (IPCT)
- Escalate to line manager if they are unable to follow this SOP.

Managers must:

- Support HCWs in following this SOP.
- Cascade new policies/SOPs to clinical staff

Infection Prevention and Control Teams (IPCTs) must:

- Keep this SOP up-to-date.
- React to notification of water ingress in high risk areas
- Provide advice on completion of HAI SCRIBE for all repairs / refurbishments

Estates Teams must:

- Respond to all notifications of water ingress to the healthcare environment
- Complete an HAI SCRIBE, if required, following discussion with IPCT

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2. Background

Mould and damp are caused by excess moisture. Moisture in buildings can be caused by leaking pipes, rising damp in basements or ground floors, or rain seeping in because of damage to the roof or around window frames.

Aspergillus and other fungi are ubiquitous and are found in soil, water and decaying vegetation. These pathogenic fungi survive well in air, dust and moisture present in health-care facilities.

Site renovation and construction can disturb Aspergillus contaminated dust and produce bursts of airborne fungal spores. Absorbent building materials serve as ideal substrate for the proliferation of Aspergillus and other fungi if they become and remain wet. In addition equipment and patient care items can become contaminated with fungal spores and serve as sources of infection.

Because Aspergillus is ubiquitous in the environment it is not unusual for non-immunocompromised patients to become colonised with it in their respiratory tracts. This is particularly the case in individuals with asthma, other chronic lung diseases or cavitating lung disease e.g. Tuberculosis.

A major risk factor for the development of Invasive Aspergillosis is a host's severe immunosuppression and therefore transplant patients are at particular risk. Other at risk groups include, patients undergoing chemotherapy, those with immune system deficiencies, haemodialysis patients, ICU patients, those who have received prolonged and high dose steroids and those with Cystic Fibrosis.

Concentrations of Aspergillus species below 1 colony forming unit / m³ are sufficient to cause infection in such high risk patients. Mortality rates can be as high as 100% if neutropenia persists.

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3. Reporting water damage

All healthcare staff must be made aware of the importance of water leakage/damage and should report it to the nurse in charge immediately.

Any water ingress/leakage must be reported to the site estates and facilities manager and the local IPCT.

If the room is occupied by a patient they should be moved to another part of the ward / unit and a sign placed at the entrance stating that the area is closed off / not to be used for patient care.

4. Estates management of water damage

Building structures may be heavily contaminated with microorganisms such as mould, mould spores, and bacteria. Assessment of water damage to any healthcare premise must include the level of work required to restore / repair the facility before it is returned to use. The assessment must also include removal of damaged or contaminated materials in a safe manner and also identifying any salvageable materials which can be thoroughly dried, repaired, cleaned and restored safely.

In general water leaks identified and controlled within 48 hours of occurring are low risk for subsequent fungal contamination.

If plaster is involved and a moisture meter is available Sub 20% Moisture Content within 48hrs is considered satisfactory and therefore the material does not require removal.

If the area affected is not dry beyond 48 hours there will be a requirement to remove the affected materials and carry out reconstruction work. All materials should be removed with full HAI SCRIBE measures in place.

If ceiling tiles are involved these must also be replaced within 48 hours.

The area surrounding the tiles should be sealed off and HAI SCRIBE measures implemented. Tiles should be placed directly into black bin bags, double bagged, sealed and disposed of.

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It is important that the area adjacent to the affected tiles should be visually inspected by Estates prior to fitting replacement tiles. This is due to water tracking which may have occurred. If there is any evidence of ongoing dampness Infection Prevention & Control should be contacted. Any tiles that are stained with water or with visible black mould should be removed.

It is worth inspecting the ceiling void for any old building materials as these are often conducive to mould growth and they should be removed.

Depending on the clinical area where the water damage has occurred and the extent of the damage it may be necessary to perform air sampling after repair work. The Infection Control Doctor will advise.

5. Environmental sampling

It may be necessary to undertake environmental sampling (including air, surfaces etc.) before, during and / or after repairs are undertaken. This will be decided by the Infection Control Doctor leading on the incident.

6. Evidence Base

- 1) Guidelines for Environmental Infection Control in Health-Care Facilities. Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC). 2003
- 2) Vonberg R-P, Gastmeier P. Nosocomial Aspergillosis in outbreak settings. Journal of Hospital Infection 2006;63:246-254
- 3) Falvey D.G, Streifel A.J. Ten-year air sample analysis of Aspergillus prevalence in a university hospital. Journal of Hospital Infection 2007;67:35-41

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