

POLICY DOCUMENT

Burton Hospitals
NHS Foundation Trust



AIR HANDLING POLICY

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Burton Hospitals NHS Foundation Trust

POLICY INDEX SHEET

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POLICY FRAMEWORK

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Burton Hospitals NHS Foundation Trust

AIR HANDLING POLICY

1. INTRODUCTION

This document sets out Burton Hospitals NHS Foundation Trust's policy for managing air handling systems. The Trust has a stated objective of providing safe, high quality Healthcare Environments for its patients, staff and visitors. This is achieved by ensuring that Trust premises are designed and maintained to high standards and comply with all the statutory and mandatory requirements as well as NHS technical standards.

Ventilation is used extensively in healthcare premises for both the comfort of occupants in buildings and to closely control the environment and air movement of the space. It also contains, controls and reduce hazards to patients and staff from airborne contaminants, dust and harmful micro-organisms.

The link between surgical site infection and theatre air quality has been well established. If the ventilation plant has been installed to dilute or contain harmful substances, its failure may expose people to unacceptable levels of contamination. In addition, general ventilation systems which do not achieve and maintain the required standards can result in increased health risks to patients and other occupants.

2. POLICY OBJECTIVE

Through this policy, the Trust aspires to provide a safe, high quality Healthcare environment for its patients, staff and visitors. This is partially achieved by ensuring that Trust premises are maintained to a high standard, comply with statutory and mandatory requirements and best practice as set out in Health Technical Memorandums and other Department of Health guidance.

This document describes the systems and processes required to ensure that air handling systems are maintained, inspected and tested to provide a safe and suitable environment. The policy is based on HTM 03 (previously HTM 2025), local building regulations and relevant health and safety requirements.

Ventilation is used extensively in all types of healthcare premises to provide a safe and comfortable environment for patients and staff. More specialised ventilation is provided in areas such as operating departments, critical care areas and isolation facilities for primary patient treatment.

Ventilation is also installed to ensure compliance with the quality assurance requirements of items processed in pharmacies and sterile services departments and to protect staff from harmful organisms and toxic substances (for example in laboratories).

The policy also describes the roles and responsibilities of various individuals in the Trust who are involved in the design, management, operation, maintenance and testing of systems, the key activities which must be undertaken, and a process for assurance.

3. DEFINITIONS

3.1 Critical system

A ventilation system which out of service would seriously degrade the ability of the premises to deliver optimal healthcare would be considered critical.

This includes:

- Operating theatres of any type, including rooms used for interventional investigations (for example catheter laboratories).
- Patient isolation facility of any type.
- Critical care, intensive treatment or high-dependency unit.
- Neonatal unit.
- Category 3 or 4 laboratory or room.
- Pharmacy aseptic suite.
- Inspection and packing room in a sterile services department.
- MRI, CAT and other types of imaging technologies that require particularly stable environmental conditions to remain within calibration.

3.2 Non critical systems

General ventilation and extract systems in buildings

3.3 Authorised person

As defined in HTM 03-01. The person who manages the operation, maintenance and performance testing of all critical systems.

3.4 Competent person

The person who undertakes work on systems as designated by Estates managers.

4. SCOPE

The policy applies to all properties owned and maintained by the Trust including properties leased, rented or occupied under lease or other occupancy agreement.

The Policy covers maintenance on all ventilation/air conditioning plant undertaken by the Estates department.

5. AIMS AND OBJECTIVES

The Trust is committed to ensuring that all ventilation/air conditioning equipment is installed, inspected, serviced and maintained in accordance with all of the relevant legislation and guidance to ensure that such equipment does not pose a health or operational risk to either, staff, patients or members of the public.

Health Technical Memorandum 03-01 ‘Specialised ventilation for healthcare premises’ has now been published and it supersedes the previous Health Technical Memorandum 2025 – ‘Ventilation in healthcare premises’. Application of the arrangements set out in this Policy will ensure that the Trust meets its statutory obligations and operates within approved safety standards and codes of practice.

6. PURPOSE

Implementation of this policy will:

- Ensure that Ventilation equipment is suitable for its intended use and is maintained to satisfactory performance levels.
- Contribute to the overall control of infection agenda within the Trust.
- Comply with health and safety legislation requirements.
- Ensure the standards set out initially Standards for Better Health and modified over time by the Care Quality Commission are met.
- Maintain the health, comfort and environment for all Patients, staff and visitors to the Trust by ensuring adequate heating and ventilation exists and it is fully functional.

7. RELATED POLICIES

Control of Contractors Policy
Risk Management Strategy and Policy
Health and Safety Policy
Fire Policy
Infection Control Policy

8. ROLES AND RESPONSIBILITIES

The Trust has a management responsibility to ensure that inspection, service and maintenance activities are carried out safely without hazard to staff, patients or members of the public.

8.1 Chief Executive Burton Hospitals NHS Foundation Trust

The Chief Executive of Burton Hospitals NHS Foundation Trust has overall responsibility for ensuring that sufficient and suitable procedures and resource are in place to manage and maintain the Trust's ventilation equipment. In particular he/she

must ensure that suitably qualified personnel are employed to implement, manage and review this activity.

8.2 Head of Estates

The Head of Estates is responsible for ensuring that all ventilation/air conditioning equipment is inspected, serviced, maintained and tested in a safe manner without hazard to staff, patients or members of the public.

8.3 Maintenance Manager

The Maintenance Manager shall ensure that:

- Any Critical systems are identified and subjected to testing by an Authorised person.
- Ensure that appropriate reactive and planned preventative arrangements are put in place to deliver to the aims of this policy.
- Ensure that competent persons undertake regular maintenance on other ventilation systems and equipment.
- Ensure that the policy and procedures are implemented by a range of in-house or contracted services.
- Audit the effectiveness of the arrangements and arrange corrective action.
- Report any deficiencies which cannot be addressed within delegated limits of resource and authority.

8.4 Project Managers

Manage Trust Estates Projects and Capital Projects and in doing so ensures that:

- All new installations meet the latest legal and technical standards.
- Ensure that a suitably qualified person is involved in the design of all new installations and that commissioning and performance checks are undertaken and documented.
- Ensure that all new installations are accessible and maintainable without resort to specialist access equipment or the need for removal of finishes/infrastructure.
- Ensure that maintenance teams have comprehensive operations and maintenance manuals handed over on completion of schemes.
- Ensure that appropriate training and familiarisation is provided to in house and contract maintenance teams.

8.5 Competent person//maintenance person

Undertakes work on systems as designated by engineering managers. In particular:

- To carry out in repairs and planned preventative routines as instructed by the Head of Estates, and provide feedback on performance and maintenance issues.
- To ensure all health and safety, COSHH, Trust policies and procedures and risk assessments are adhered to at all times.
- To leave work area safe and tidy
- To report any maintenance defects or required changes to PPM routines or asset data

- Record work done in system log books on individual ventilation systems.
- Ensure that appropriate records are kept for maintenance, testing and validation work undertaken which is appropriate system in a format readily retrievable for audit purposes.

8.6 Infection Prevention and Control

- Advise on monitoring infection control and microbiological performance of systems.
- To carry out or authorise the carrying out by an accredited laboratory, any microbiological tests as required.
- Provide infection control support to Estates staff as required in relation to infection control issues related to ventilation systems

8.7 User

This is the local manager responsible for a building or unit. They have the responsibilities for:

- To report ventilation and system defects to the Estates helpdesk
- Ensure they are familiar with the purpose, functionality, operation and user controls for the systems in their areas.
- Ensure reasonable access for maintenance to be carried out as laid down in this policy.
- Reporting all incidents (including near misses) on the Trust Incident reporting system

9. STANDARDS

9.1 Standards

9.1.1 Technical and performance guidance is set out in Health Technical Memorandum 03-01 ‘Specialised ventilation for healthcare premises’. This supersedes all previous versions such as HTM 2025, however, it should be noted that the new document is not retrospective and does not therefore apply to systems which were designed to older standards.

9.1.2 In many existing systems, original design and commissioning information will not be available. It will therefore be necessary to determine a suitable level of system performance based on the function, purpose and age of the installation

9.2 Design and Installation

9.2.1 The design and installation of new equipment is fundamental to the long term provision of suitable systems which will perform well over a 15-20 year time frame.

9.2.2 All ventilation/air conditioning equipment shall be appropriate for the area it is being designed for and it is only installed where absolutely necessary.

9.2.3 All ventilation/air conditioning equipment is to be designed and installed by suitably qualified personnel and complies with the requirements of HTM 03-01 and other statutory legislation.

9.2.4 Systems shall be designed to the highest standards in terms of energy usage to ensure that the Trust's carbon and sustainability agenda are not compromised.

9.2.5 Cooling and/or air conditioning will only be installed in Trust buildings where there is a specific patient imperative or where critical plant needs to be maintained within prescribed temperature parameters. Cooling in office areas is unlikely to meet this criterion.

9.2.6 All installations should be easily accessible for maintenance and testing of all maintainable parts and components without the need for specialist access equipment and/or removal of building fabric and finishes.

9.2.7 When new equipment is accepted for use, full information as to its designed mode of operation together with maintenance procedures is provided as part of the handover procedures and prior to system use.

9.2.8 The users and those who maintain the system need to be instructed in its safe operation and how to provide the correct environmental conditions as part of the handover procedure at the end of the commissioning period.

9.3 Maintenance

9.3.1 All existing ventilation/air conditioning systems shall be surveyed to ensure that the minimum standards are achieved.

9.3.2 Maintenance procedures should be reviewed periodically to ensure that they remain appropriate.

9.3.3 The degree and frequency of maintenance should relate to the function of the system, its location, its general condition and the consequence of failure

9.3.4 All ventilation systems should be provided with safe access for the purpose of carrying out routine servicing and maintenance activities.

9.4 Ventilation system cleaning

9.4.1 Air Handling Units should be vacuumed-out and/or washed down internally as necessary to remove obvious dust and dirt.

9.4.2 Chiller batteries, humidifier units, energy-recovery batteries or plates and their drainage systems should be washed down with hot water annually to remove visible contamination.

9.4.3 Supply air distribution ductwork conveys air that has been filtered. It will require internal cleaning only when it becomes contaminated with visible dirt. The frequency of cleaning will depend on the age of the system and grade of the AHU final filter but will typically be in excess of ten years. There is no requirement to clean ductwork annually.

9.4.4 Split and cassette air-conditioning units incorporate internal recirculation air filters and a drainage system to remove condensate from the cooling coil. The systems should be inspected and cleaned every three months.

9.5 Testing

9.5.1 All critical ventilation systems should be inspected quarterly and verified at least annually. In some circumstances the verification may need to be carried out more frequently.

9.5.2 The quarterly inspection should be a simple visual check; the annual verification will be a more detailed inspection of the system together with the measurement of its actual performance.

The annual verification is intended to establish that:

the system is still required, the AHU conforms to the minimum standard and the fire containment has not been breached.

The verification should also assess whether the general condition of the ventilation system is adequate, the fabric of the area served is satisfactory and the system performance is adequate with respect to the functional requirement. Annual verification will require:

- a full measure of the supply and extract air-flow rates;
- the calculation of room air-change rates if applicable;
- the measurement of room differential pressures if applicable;
- the measurement of room noise levels;
- air-quality checks if appropriate;
- a check on the control functions.

9.5.3 Unless otherwise specified below, the ventilation system should achieve not less than 75% of the design air-change rate given in Appendix 2 of HTM 03-01 Part A, or its original design parameters.

9.5.4 The pressure regime should achieve not less than 75% of the design value given in Appendix 2 of Part A, of HTM 03-01 or its original design parameters; and the pressure gradient relationships with regards to surrounding areas must be maintained.

9.5.5 Should a critical system be unable to achieve the standard set out above, it should be taken out of service. If healthcare provision needs prevent the system being taken out of service, the senior manager of the user department should be informed in writing that the system performance is suboptimal. A copy of the notice should be sent to the infection control department.

9.6 Information

The following information shall be provided adjacent to the plant to which it refers:

- General information regarding the intended operation of the plant together with a schematic diagram of the equipment and its distribution system.
- Specific information as to the purpose of the plant and details of those departments and/or personnel that should be informed prior to switching off or carrying out maintenance activities.
- Specific information required for the safety of the personnel carrying out the service and maintenance activities.
- Ventilation system records and logbooks should be kept of the commissioning information, operational management routine, monitoring and maintenance.

9.7 Inspection and maintenance records

Records of inspection and maintenance activities should be kept for at least five years.

9.8 Training

9.8.1 The users and those who maintain any ventilation/air conditioning systems will need to be properly trained in order to discharge their responsibility

9.8.2 Comprehensive training records should be kept

10. MONITORING AND EFFECTIVENESS OF COMPLIANCE

10.1 Process for Monitoring Compliance and Effectiveness

The Associate Director of Estates will maintain an audit cycle for monitoring and review of compliance of this and other Estates policies within the Trust.

An annual performance report of critical ventilation systems will be presented and discussed at the Infection Control Board.

10.2 Standards/Key Performance Indicators

Performance data will be developed and published on an annual basis to confirm:

- Any critical systems are clearly identified
- Where these exist, that appropriate validation checks have been undertaken
- That any non conformance on systems is clearly documented and deemed satisfactory
- That required plant investments are published with plans for investment or reasons for non investment.

11. REFERENCES

The main Standards and Legislation covering this Policy are contained in, but not limited to:

- Health Technical Memorandum 00-03- Specialised ventilation for healthcare premises
- Health Technical Memorandum 2025 – Ventilation in healthcare premises - Superseded by HTM 00-03
- Health Technical Memorandum 00-00 – Estate code
- The Health and Safety at Work Act 1974
- The Control of Substances Hazardous to Health (COSHH) 1998
- The Management of Health and Safety at Work Regulations 1999
- Workplace (Health, Safety and Welfare) Regulations 1992