

Prevention rather than cure

Darren Ling, a director of System Hygienics, describes the company's most recent high-profile NHS project.



Cleanliness in hospitals is a subject continually in the media as the government puts increasing pressure on healthcare providers to ensure high standards of hygiene are maintained and that preventative measures are taken to avoid hospital-acquired infections.

Part of the drive to clean-up the NHS included the launch of national cleaning standards for all NHS hospitals, requiring hospital inspection teams to assess hygiene and cleanliness in numerous categories.

Surface dust and dirt is easy to clean as it is visible to the eye, but what about the dirt you can't see? Ventilation systems, for example, provide the perfect breeding ground for potentially harmful bacteria. Hospitals are duty bound by legislation to prevent the spread of infections in line with the requirements laid down in the Health Technical Memorandum 03-01. This focuses on the operational management and performance verification of specialist ventilation systems in healthcare premises, advising on best practice and

maintenance procedures. The Department of Health clearly states: "Increased health risks to patients will occur if ventilation systems do not achieve and maintain the required standards. The link between surgical site infection and theatre air quality has been well established."

To control the spread of infections, internal ductwork surfaces must be cleaned regularly to avoid the inevitable build-up of organic compounds, such as dust and dirt. If dust and dirt is left, harmful micro-organisms can form in the ventilation ductwork and can easily become airborne. In a hospital environment, airborne contaminants can pose a significant threat to the welfare of patients, increasing the risks of life-threatening viruses such as MRSA and Clostridium Difficile.

System Hygienics has more than 15 years experience of cleaning ductwork systems for NHS and private hospitals. The company recently carried out a full environmental hygiene management programme at the Princess Royal University Hospital in Orpington, Kent. This hospital has a capacity for

more than 500 patients and day case facilities, with services including imaging, pathology, laboratory, pharmacy and paediatric departments.

A spokesperson for VINCI Construction UK (formerly Taylor Woodrow), the facilities management company responsible for Princess Royal University Hospital, said: "It is vitally important for hospitals to properly maintain their ductwork and ventilation systems, and we have a rolling contract with System Hygienics where they spend approximately one month per year servicing and maintaining the ventilation system here."

Peter Llewellyn, Estates Manager for South London Healthcare NHS Trust, added: "Ensuring the safety and wellbeing of our staff and patients at all of our Trust sites is something we take very seriously. When using external suppliers for maintenance work, professionalism and efficiency are our two top priorities."

Part of System Hygienics' environmental hygiene management programme includes an air hygiene and risk assessment survey, which is undertaken so that any potential hazards are identified and dealt with as a priority. A detailed report was provided of dust and

microbiological samples, indoor air quality measurements and photographs. Rigorous analysis of the ventilation systems showed that the ventilation system at the hospital was in good shape (though this has not always been the case at other hospitals). In addition, System Hygienics' team completed HVCA TR19 deposit thickness tests, surface contact detection, as well as fungi and aspergillus testing.

Following this, System Hygienics used its Jetvent system to deep-clean the fresh air intakes on the hospital's ventilation systems. The Jetvent is a remote cleaning method which uses compressed air and a powerful filtered vacuum to access and clean areas that would normally be out of reach. Using the Jetvent system enabled the two engineers to reach up to 50 metres of ductwork from one single point – ideal for a quick and effective clean. The system also made it possible to complete the entire task in just two days, ensuring no disruption to patients, staff or the general running of the hospital.

Fire prevention

In addition to the testing and cleaning service provided, System Hygienics also addressed the hospital's fire damper system. Fire dampers are designed to prevent ductwork conveying fire from one area to another, but regular maintenance is required to maintain effectiveness.

Building and facilities managers have a legal obligation to prevent the risk of

fire within the buildings they manage under The Fire Safety Order (2005). Fire safety obligations include conducting a 'sufficient assessment of the risks to which relevant persons are exposed for the purpose of identifying the general fire precautions' of the building.

System Hygienics located all of Princess Royal's fire dampers and cleaned, lubricated and drop-tested them to ensure they were in excellent working order. In some instances, simple faults such as damaged linkages are detected; these are easily rectified but must be logged to meet fire safety regulations.

British Standard 9999 for fire safety provision in buildings covers recommendations on the routine inspection and maintenance of ventilation and air conditioning ductwork and specifies that, depending on the type and style of dampers, maintenance should be carried out at a maximum interval of 12 months for spring operated fire dampers or two years for others.

Good practice guide

The Heating and Ventilating Contractors' Association (HVCA) has published The Guide to Good Practice (TR/19) Internal Cleanliness of Ventilation Systems, which provides ventilation hygiene suppliers with comprehensive advice on how systems should be cleaned and maintained, together with guidelines on ensuring new ductwork systems remain protected during the installation period prior to commissioning.



Before a deep clean



After a deep clean