

# A Case Study on Howorth Exflow Ultra Clean Ventilation at Presbyterian Medical Center - Philadelphia, PA

## Patient Safety

In the 30,000 active operating rooms in the United States, 700,000 arthroplastic procedures are performed each year with an average infection rate between one and three percent.

At Presbyterian Medical Center, surgeons and infectious disease officials were worried about Surgical Site Infections (SSI's) among their own patients. SSI's incurred during arthroplasties can be particularly deadly as the infection develops deep inside the wound, sometimes on the bone, making detection difficult. Remedial surgery is risky and usually comes too late. "With a Howorth UCV System cleaning the air, colony forming units (CFU's) of these deadly airborne microbes are reduced from 250 per cubic meter to less than ten per cubic unit," says Joe Callahan, president of Expo Airflow. "Operating rooms utilizing this system have seen their infection rate drop to less than half a percent."

## Hospital Management

Adding to Presbyterian Medical Center's worries were pending changes in Medicare payment procedures.

In an effort to link pay to performance in government programs, Medicare declared that the program will not pay hospitals for remedial surgeries performed to correct "reasonably preventable" conditions that are acquired during the patient's stay, such as SSI's. Presbyterian Medical Center staff not only wanted to protect their patients, but also their ability to serve their patients' needs.



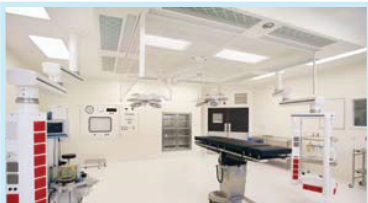
## The Solution

Howorth UCV systems consist of a central ventilation unit installed in the ceiling of the Operating Room that pumps clean air through standard HEPA filters with a graded velocity airflow pattern, reducing concentrically outwards from the center to form a clean zone, avoiding entrainment of outside particles.

Officials at Presbyterian Medical Center decided to install a Twin Stem Exflow 28 UCV System in an operating room designed by BBLM Architects and Ballinger Company in Philadelphia, PA. This system provides an Ultra Clean operating zone of 9.2 feet x 9.2 feet, allowing the entire operating team and all their instrument tables to be accommodated beneath the canopy. The built-in luminaries can provide a measured light level in excess of 1,200 lux. Its compact size made it ideal for retrofitting operating room 15 at Presbyterian Medical Center.

## The Future

With proper maintenance, the UCV installed in Presbyterian Medical Center will last about fifteen to twenty years. Furthermore, as the system completes 500 Air Changes an Hour (ACH) this Howorth UCV will still be ahead of the curve as long as it is in operation. Presbyterian Medical Center will continue to enjoy better OR utilization due to fewer remedial surgeries, reduced litigation risks, and a greater rate of return through government health care programs.



The installation of a Howorth Twin Stem 20 Exflow Ultra-Clean Ventilation System in Presbyterian Medical Center located in Philadelphia, PA is not only saving the hospital thousands of dollars, but also saving patients' lives.