



**The Arthur G. James Cancer Center
Hospital and Research Institute**
Columbus, OH

Just prior to opening in January, 1990, a ruptured water pipe on the 12th floor flooded the building with an estimated 500,000 gallons of water. Ceilings, walls, carpeted floors and upholstered furnishings were either wet or exposed to high humidity.

After assuring that the building's structural integrity had not been compromised, attention focused on restoring the microbiological quality of the building to levels consistent with its intended use, particularly in the Bone Marrow Transplant areas and other areas where immunosuppressed patients would be housed or transported. Despite high efficiency air filtration and widespread use of a chlorine-based disinfectant fog throughout the building and its ventilation system, large numbers of fungi and bacteria were retrieved from the air in all areas of the hospital. Large numbers of water-associated bacteria, such as *Acinetobacter sp.*, as well as fungi were retrieved from carpeting.

OUTCOMES:

All accessible interior surfaces (carpets, ceilings, walls, above ceiling spaces, furnishings, elevator shafts, mechanical and electrical chases) were treated with the silane quaternary amine antimicrobial. The applications were randomly tested for uniformity and penetration throughout the treatment process. Of the 209 sample sites, 122 (58%) of pre-treatment retrievals produced 2,800 CFU's/m³. The final post-treatment samplings produced retrievals in the range of 0 to 4.7 CFU's/m³, with an average retrieval of 0.4 CFU's/m³. 65% of the sites produced zero CFUs. All twenty four bone marrow transplant rooms were negative for microorganisms. The facility is presently free of odor and has a new appearance unaffected by the extensive application of a surface antimicrobial. No fungal nosocomial infections were recorded in this facility during the 30-month study and a post study check after five years.