

*Identification of Environmental Survival Factors For A. baumannii and Risk Assessment of Exposure*  
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**ABSTRACT**

A rising problem in health care is the development of *Acinetobacter* infections. One species in particular, *Acinetobacter baumannii* has been a growing concern to care givers as it has been developing resistance to multiple antibiotics and treatment alternatives are diminishing. *A. baumannii* have been linked with a variety of nosocomial infections and have been particularly problematic in hospital intensive care units (4).

This study plans to identify the factors that increase the risk of colonization of *A. baumannii* strains within the environment and then quantify the risk of exposure to patients. The ability for *A. baumannii* to survive in the environment contributes significantly to hospital outbreaks as well as community-acquired infections. The biofilm formation capacity of *A. baumannii* as a mechanism for environmental survival and transmission in hospitals has not been studied. This study hopes to elucidate how biofilm formation contributes to the risk of colonization on various surfaces and subsequent increased exposure to *A. baumannii*. In an effort to characterize this relationship along with other risk factors for survival and transmission (including disinfection resistance and survival on specific hospital surfaces) the correlation of biofilm formation capacity and disinfectant resistance patterns to exposure risk can be assessed.

Characterizing the surfaces and locations in the environment that these organisms will be found (or not found) will provide hospitals with the information needed to conduct a more controlled prevention/maintenance program. Currently, an entire hospital ward is closed down for extensive disinfection as a temporary measure of control of an outbreak of antibiotic resistant *A. baumannii* (1, 19). Such drastic measures are both time consuming and very costly. In addition to identifying risk factors for the survival of *A. baumannii* in the hospital environment and the risk of infection to patients, we expect that this study will provide the data needed to develop appropriate infection control procedures that are more focused and strategic for targeting *A. baumannii*, thus reducing exposure and providing a more cost-effective method of control.