

Copper surfaces could reduce hospital acquired infections

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Research from the Medical University of South Carolina suggests that adding copper to hospital surfaces which are commonly touched by medical personnel and patients could help reduce the risk of hospital-acquired infections. The findings appear in the July 2012 issue of the *Journal of Clinical Microbiology*.

Hospital-acquired infections kill around 100,000 people annually in the United States—equivalent to a wide-body jet crash every day of the year. About five percent of patients admitted to US hospitals—nearly 5,500 daily, or two million annually—get sick from the hospital, adding \$45 billion (\$45,000,000,000) to the annual cost of healthcare.

In this study, the microbial burden on commonly touched surfaces in the medical intensive care units of three hospitals was determined, first to assess the risk from those surfaces, and second, to determine whether or not copper surfacing would lower that burden, and those risks. The study was divided into two phases, pre- and post-copper, and lasted for 43 months.

During the pre-copper phase, "We learned that the average microbial burden found on six commonly touched objects was 28 times higher than levels considered benign, and thus represented a risk to the patient," says Michael Schmidt, a researcher on the study. Installing copper surfaces, he says, resulted in an 83 percent reduction of that microbial burden, leading the team to conclude that copper surfaces on commonly touched objects could provide a substantially safer environment.

"Given that the average hospital acquired infection in the United States conservatively adds an additional 19 days of hospitalization and \$43,000 in costs the use of antimicrobial copper surfaces warrants further study and optimization," says Schmidt, adding that this is the fourth leading cause of death, after cancer, heart disease, and strokes. He notes that "[Copper](#) has been used by humans for millennia, first as tools and then as a tool to fight the spread of infectious agents."

More information: M.G. Schmidt, H.H. Attaway, P.A. Sharpe, J. John, Jr., K.A. Sepkowitz, A. Morgan, S.E. Fairey, S. Singh, L.L. Steed, J.R. Cantey, K.D. Freeman, H.T. Michels, and C.D. Salgado, 2012. Sustained reduction of microbial burden on common hospital surfaces through induction of copper. *J. Clin. Microbiol.* 50:2217-2223.

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