Antimicrobial Copper Surfaces to Reduce Hospital-Acquired Infections in Intensive Care Settings

Who Might Benefit?

Health care-associated infections (HAIs) — infections that patients acquire while in health care settings — are a concern, especially for patients in the intensive care unit (ICU). In Canada, approximately 200,000 patients acquire HAIs on a yearly basis, with an estimated mortality of 8,000 per year. Bacterial contamination on various surface areas in health care facilities can be a source of transmission to patients, health professionals, and visitors. Adequate control of hospital-acquired infections can reduce morbidity and mortality, and increase the quality of life of patients receiving health care.

Current Practice

Regular touch surfaces are generally made of stainless steel, plastic, or other materials, and are cleaned regularly according to guidelines and policies. These policies outline the types of products to be used for cleaning, the frequency of cleaning, and describe how to clean specific surfaces. Factors that influence cleaning practices include: the type of activity conducted in the area (e.g., ICU) and its associated risk of infection, the frequency of contact with the touch surface, the vulnerability of patients, and the probability of contamination from bodily fluids.

Potential Advantages

The lower levels of bacteria on copper surfaces in an ICU setting have led to a reduction in rates of health care-acquired infection. This new technology, which is intended to deliver antibacterial activity in between regular cleaning intervals, is purported to have antibacterial properties that last the product’s lifetime. It appears the antimicrobial copper surfaces achieve a 99.9% reduction in both gram-negative and gram-positive bacteria within two hours of exposure.

Additionally, it appears the copper alloys are safe both for humans and the environment. Its effectiveness in decreasing infection rates in hospitals and other health care settings may also increase the quality of life for patients.

What’s New?

Touch surfaces made of antimicrobial copper and copper alloy (brasses and bronzes) appear to be a promising alternative that may improve the prevention and control of infection and, therefore, offer safer health care environments for patients. When incorporated on surface areas such as bedrails, handrails, door handles, work surfaces, intravenous (IV) poles, and washroom components, the natural antimicrobial properties of copper would reduce bacterial contamination, transmission, and rates of infection.