Antimicrobial Copper: an adjunct to infection prevention and control

Antimicrobial Copper is a new way of thinking about reducing pathogens in the environment—in between regular cleaning—to lower the risk of transmission.

Installing touch surfaces made from Antimicrobial Copper does not replace good hand hygiene, regular cleaning and disinfection. It is an additional measure to reduce reservoirs of contamination, thus boosting infection prevention and control.

Copper has broad-spectrum efficacy against pathogens, including antimicrobial-resistant strains. It shares this benefit with over 500 widely-used copper alloys, creating a family of materials collectively called Antimicrobial Copper.

The US EPA registration of solid Antimicrobial Copper surfaces in 2008 supports a claim of 99.9% bacterial kill in under two hours for six named pathogens: MRSA, VRE, *Staphylococcus aureus*, *Enterobacter aerogenes*, *Pseudomonas aeruginosa*, and *E. coli* O157:H7. More recently, dry touch simulations have shown much faster kill rates (e.g. $>10^5$ EMRSA and VRE killed within 10 minutes, at a much higher microbial challenge level than would be encountered on a typical hospital surface).

Copper alloys are hard-wearing and have demonstrated enduring efficacy in clinical trials where components were installed for up to 29 months, reducing bacterial burden by >80% throughout the duration.

In a three-centre Department of Defense ICU trial, an associated reduction in infections of >50% was reported[1]. A translation science article provides an overview of the laboratory and clinical assessments of copper[2].

As the antimicrobial properties are inherent to these solid materials, they will not lessen or wear away over time and with heavy use.

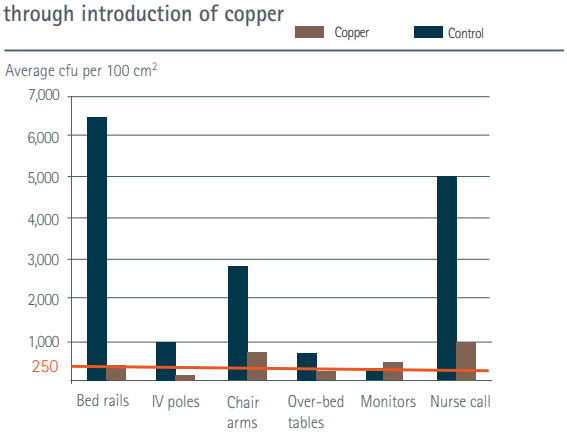
The range of antimicrobial copper alloys enables the choice of installing overtly copper-looking alloys as a positive infection control statement, or alloys that look like stainless steel and resist oxidation. Cleaning staff at sites where the former were installed reported that the natural oxidation indicates areas they have missed, yielding useful feedback.

Visit antimicrobialcopper.org to find out more, including:

- Published research - see Scientific Proof/Scientific References
- Efficacy testing under typical indoor conditions - see Scientific Proof/Efficacy Testing
- Economic model - see Why Antimicrobial Copper/Business Case
- Installations - see News and Download Centre/Case Studies.

Break the chain of infection with Antimicrobial Copper

Sustained reduction of microbial burden on hospital surfaces through introduction of copper



In a multi-centre ICU trial in the US[3], copper surfaces routinely met the proposed hygiene standard of 250 cfu/cm^2.

[1] Cassandra D Salgado et al. Copper Surfaces Reduce the Rate of Healthcare-Acquired Infections in the Intensive Care Unit. Infection Control and Hospital Epidemiology , Vol. 34, No. 5, Special Topic Issue: The Role of the Environment in Infection Prevention (May 2013), pp. 479-486.

[2] Michels, H et al. From Laboratory Research to a Clinical Trial: Copper Alloy Surfaces Kill Bacteria and Reduce Hospital-Acquired Infections. HERD, October 2015 vol. 9 no. 1 64-79, doi: 10.1177/1937586715592650.

[3] Schmidt MG et al. Sustained Reduction of Microbial Burden on Common Hospital Surfaces through Introduction of Copper. J Clin. Microbiol. 2012, 50(7):2217. DOI: 10.1128/JCM.01032-12..