

Cooney, T. E. 1995. Bactericidal activity of copper and noncopper paints. *Infect. Control Hosp. Epidemiol.* 16:444-450.

Abstract: OBJECTIVE: To screen copper and noncopper paints for their bactericidal effectiveness in rendering surfaces self-disinfecting. DESIGN: Tested paints were applied to glass coverslips, cured, inoculated with test organisms (*Staphylococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa*, and *Enterococcus faecalis*), and dried. After 0, 24, or 48 hours, surviving organisms were eluted and enumerated, and counts compared with those obtained from inoculated control (unpainted) coverslips for the corresponding time periods. Copper elution from select copper paints was quantified by complete immersion of coated coverslips followed by spectroscopic analysis to infer a threshold relationship between kill and copper release. RESULTS: Nearly all of the tested copper paints were capable of reducing organism counts to negligible levels within 24 hours. Exterior latex paints supplemented with a fungicide were similarly efficacious. Standard interior latex paint reduced bacterial counts to nearly zero within 24 hours for *E. coli* and *P. aeruginosa*, and to zero within 48 hours for *E. faecalis*. However, substantial survival of *S. aureus* occurred (up to 4 logs at 24 hours). Chi-squared analysis of elution and cidal data indicated that lethality was dependent on copper release in excess of 32 micrograms. CONCLUSION: The data support presumptive bactericidal claims for several copper and noncopper paints. Despite controversy over environment-based contagion, such paints could be used to render surfaces self-disinfecting in strategic locations where environmental causation of nosocomial infections is suspected.