



Press release: Public Health

Copper could play a role in controlling the spread of NDM-1

Brussels, August 12, 2010: Studies conducted at the University of Southampton on antimicrobial copper contact surfaces point to the metal as a potentially useful control measure in hospitals for the newly emergent New Delhi Metallo-1 beta-lactamase (NDM-1) group of enteric bacteria that includes *E. coli*.

Clinical research at the university has demonstrated copper's broad-spectrum antimicrobial efficacy against such dangerous organisms as MRSA, *C. difficile* and *E. coli*. This has been further explored in a clinical trial at Selly Oak Hospital in Birmingham, in which frequently touched surfaces were replaced with antimicrobial copper equivalents. The results showed an impressive 90-100% reduction in contamination on these surfaces compared to controls, and have been followed by health facilities such as the state-of-the-art Cystic Fibrosis Centre at Sheffield's Northern General Hospital replacing key touch surfaces with antimicrobial copper.

Professor Keevil, Director of the Environmental Healthcare Unit at the University of Southampton, believes that copper could play a role in controlling the spread of NDM-1.

"The gene for this new enzyme is carried on transferable plasmid DNA which we know from our studies is likely to be degraded by copper surfaces," he observes. "*E. coli*, MRSA and *C. difficile* have proved to be inactivated by copper, so it would be very interesting to investigate copper's ability to combat this new threat."

The new NDM-1 enzyme confers broad spectrum antibiotic resistance, and its gene is carried on a transferable plasmid, which will likely be degraded when the bacteria are inactivated in contact with copper surfaces; NDM-1 resistance is therefore unlikely to be transferred to other bacteria, helping to reduce the risk of this dangerous new group of bacteria.

About the European Copper Institute:

The European Copper Institute (ECI) is a joint venture between the world's leading mining companies, custom smelters and semi-fabricators (represented by the International Copper Association, Ltd) and the European copper industry. Its mission is to promote copper's benefits to modern society across Europe through its headquarters in Brussels and its network of eleven national Copper Development Associations.

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