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# In situ antimicrobial behavior of materials having copper-based additives in a hospital environment

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## Highlights:

- Antimicrobial waiting room chairs and IV pools having copper particles were in-situ tested
- The antimicrobial behavior of these products was as high as in copper metal and alloys
- Copper ion release is the main mechanism to explain our results

## Abstract:

Copper and its alloys are recognized as effective antimicrobial surface materials at the laboratory scale as well as in clinical trials. Copper has been used in the healthcare setting to reduce environmental contamination and thus prevent healthcare-associated infections, complementing traditional protocols. The addition of copper nanoparticles to polymer/plastic matrices can also produce antimicrobial materials as confirmed under laboratory conditions. However, there is a lack of studies validating the antimicrobial behavior of these nanocomposite materials in clinical trials. To satisfy this issue, plastic waiting room chairs having embedded metal copper nanoparticles, as well as metal hospital IV pools

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