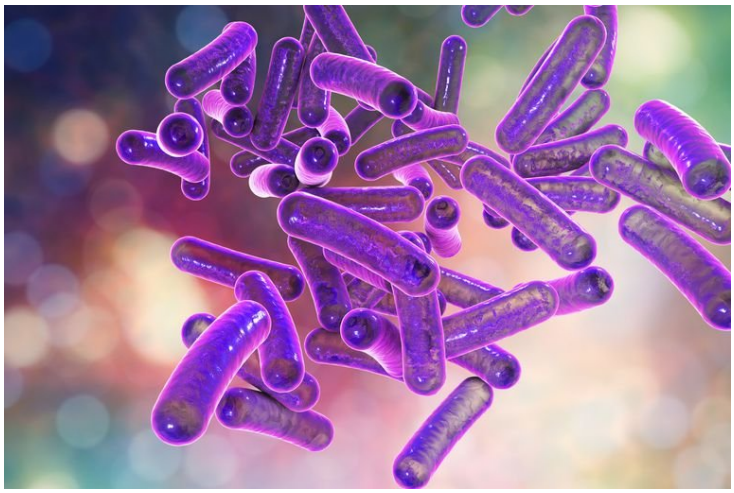
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Sheffield scientists create 3D printed parts to kill bacteria

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Researchers at the University of Sheffield have manufactured antibacterial 3D printed parts which could help stop the spread of infections in hospitals and care homes



Researchers from the University of Sheffield in the UK have, for the first time, manufactured 3D printed parts that show resistance to common bacteria. This could stop the spread of infections such as MRSA in hospitals and care homes, saving the lives of vulnerable patients.

The study was published on 21 January 2020 in *Scientific Reports* by an interdisciplinary team of researchers from the University's Department of Mechanical Engineering and the School of Clinical Dentistry. The research combined 3D printing with a silver-based antibacterial compound in order to produce the parts.

Results from the research have shown that the anti-bacterial compound can be successfully incorporated into existing 3D printing materials without any negative influence on processability or part strength, and that under the right conditions, the resultant parts demonstrate anti-bacterial properties without being toxic to human cells. Further work is ongoing to investigate the full extent of this capability.

The findings offer the potential for applications in a wide range of areas, including medical devices, general parts for hospitals which are subject to high levels of human contact, door handles or children's toys, oral health products (dentures) and consumer products, such as mobile phone cases. Further projects are planned in each of these areas, with an aim to work with leaders in industry and the potential to bring some of these products to market.

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