Title: Surface application of silver nanoparticles resist biofilm formation

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Surfaces of medical devices are commonly colonized by pathogenic microorganisms through the formation of a biofilm leading to expensive and potentially life threatening infections in patients. Biofilm results from an initial surface attachment followed by the formation of a protective blanket of impervious polysaccharide. The organisms in the biofilm are a reservoir for showers causing recurrent infections. Prevention of biofilm formation is a goal of medical device manufacturers. We have developed a process for the formation of nanoparticles of silver in a fluid vehicle that is convenient for dip application to the surface of medical devices. It is an advantage in that it utilizes a well recognized antimicrobial agent that has low toxicity for patient's tissues. Moreover our nanoparticles of silver follow the fluid phase to uniformly treat all surfaces in a cost effective fashion. This technology, which binds tightly to most materials, has proven to be very effective in prevention of biofilms of medically relevant organisms. It is an example of a cost-effective nano-technology based process for improving the performance of medical devices.