Water Filtration Using Silver Nanoparticle Impregnated Filter-Paper

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In the 1900's silver was used extensively as an antimicrobial agent. When antibiotics were developed, they became very popular and silver as an antibacterial decreased. This research is re-evaluating the use of silver as an antimicrobial agent because of antibiotic-resistant strains of bacteria (Wiegand, Wiegand, Jones, 2016). Water contaminated with E.coli was filtered through a piece of filter paper coated with 50 microliters of silver nanoparticles. Two samples of water contaminated with an infectious dose of E.coli and half of the infectious dose of E.coli were then filtered with silver nanoparticles. The results showed that the amount of E.coli was reduced by fifty percent in most samples tested. In conclusion, silver nanoparticle paper filters will decrease the amount of E.coli from contaminated water (Zhang, 2013). Further testing is needed to correct the dosage of silver nanoparticles to find the most effective amount that will completely eliminated E.coli from drinking water.

Awards Won: