Condoms Treated With Silver Nanoparticles Inactivate HIV and Herpes

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When added to condoms, microscopic nanoparticles of silver may create a powerful safety net against HIV and sexually transmitted infections (STIs), the Canadian National Post reported. Seeking to mitigate condoms' 15-percent failure rate, and to find a long-elusive additive that can prevent STIs without causing inflammation and ulceration in the genitals as with the spermicide Nonoxynol-9, researchers from the University of Manitoba soaked condoms in a solution of silver nanoparticles and found that the treated latex sheaths killed all HIV and herpes in their lab experiments.

Silver has centuries of history as a disinfectant, but with irregular results. However, as a nanoparticle, which is a minuscule cluster of atoms synthesized by scientists, the element appears to be more reliably potent against pathogens, and it does not cause inflammation. Exactly how these nanoparticles prevent HIV and STI transmission is unclear, however. The Canadian researchers speculated in their paper, which was published in the International Journal of Nanotechnology, that the silver ions may attach themselves to HIV and prevent it from binding to receptors on human cells; or that the nanoparticles may cause changes in the surface of the virus that keep it from binding. Much more research is needed—in animal and human studies—to determine if nanoparticles are in fact a silver bullet against HIV and STI transmission.

To read the National Post article, click here.

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