Penicillin-coated biomaterial created

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U.S. scientists have developed a penicillin-coated version of a polymer biomaterial to protect polymer-based surgical devices and medical implants.

Marek Urban and colleagues at the University of Southern Mississippi created a way to modify expanded poly(tetrafluorethylene) so penicillin adheres to its surface and remains highly effective. That polymer is used in medical procedures ranging from vascular grafting to plastic and reconstructive surgery.

In laboratory experiments, the researchers also demonstrated the penicillin-coated surfaces showed highly effective antibacterial activity against Staphylococcus aureus, which causes many serious human infections.

"This approach may serve as a general surface modification process for the development of polymeric surfaces with anti-microbial properties," they said.

The research is to appear in the Feb. 12 edition of the journal Biomacromolecules.